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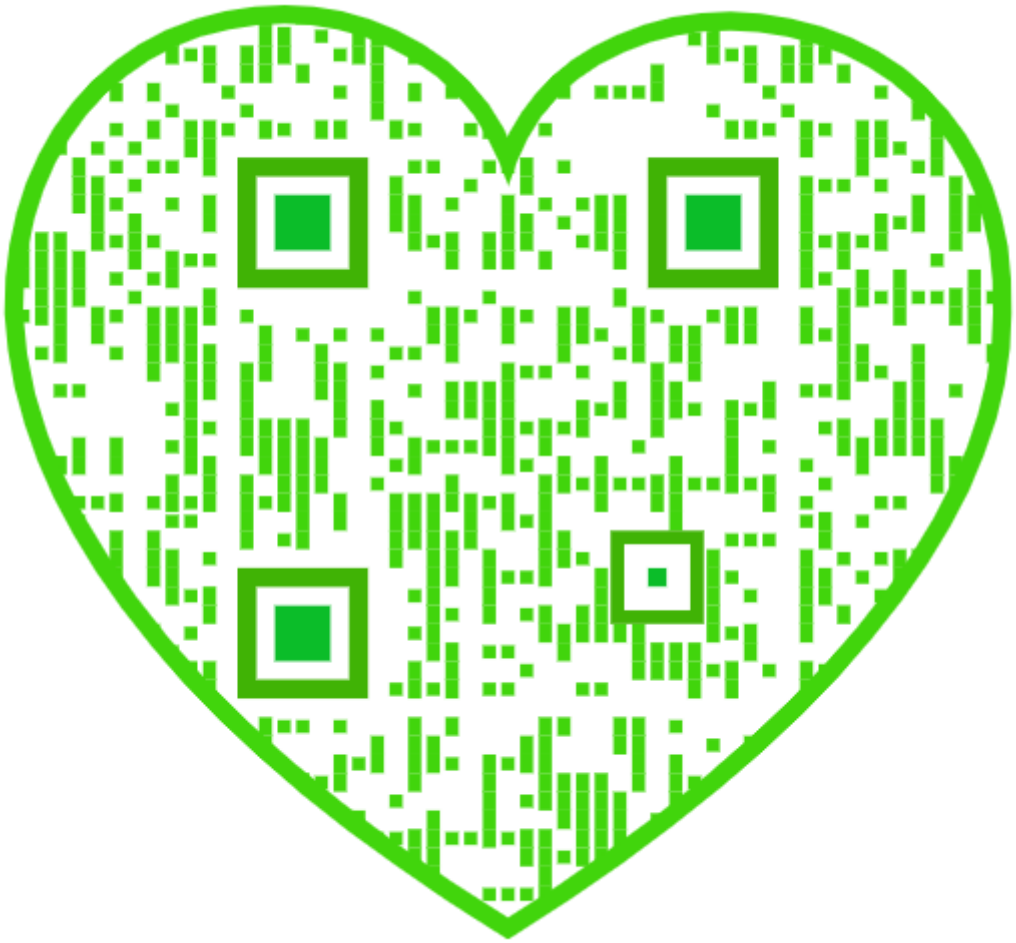

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THE

British Bee Journal

AND BEE-KEEPERS' ADVISER.

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THOMAS WM. COWAN, F.G.S., F.L.S., F.R.M.S., &c.

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Legislation on Bee Diseases.

It will be seen from *Hansard* that the Ministry of Agriculture's Bee Diseases Bill has passed the first reading in the House of Lords. It has been printed, and copies can be obtained from Eyre & Spottiswoode, Ltd., East Harding Street, London, E.C.4, price 2d. post free.

As the Bill will shortly be before the House of Commons we would strongly advise all those who are anxious to obtain this long-due measure to write *at once* to their M.P. seeking his support.

It is no use leaving it to the other fellow. Apathy never yet gained anything. A supreme effort *Now is Vital*. There will probably be opposition, and it is up to every individual bee-keeper to make his wish known to the members of Parliament and to the Government. The latter have done their best, and it is for those interested in the industry to back them in their efforts.

We suggest further that every bee-keeper who desires protection for his calling sends a post card *at once* to the Minister of Agriculture, Whitehall, London, somewhat on the following lines: "I am in favour of the Bee Diseases Bill you have introduced into the House of Lords, and for the salvation of bee-keeping trust you will exert your utmost power to get it on the Statute Book."

We know the majority of bee-keepers are anxious for this law, and it rests with each one individually to make a combined effort *Now*. Thousands of post cards received by the Minister will demonstrate the demand there is for Legislation, and strengthen his hands when the measure is before Parliament.

As the Bill is applicable to Scotland, Scottish bee-keepers in favour of legislation should also take the same measures as the English and Welsh.

We would also suggest that those not in favour of protection also send post cards, the wording of which we leave to them. A comparison will then be possible by the Minister.

Associations also must not be apathetic, even if they have already sent resolutions asking for legislation; it is imperative that they again send resolutions urging the necessity for the Bill to become an Act. It is no use saying what might have been done when it is too late. Therefore, *DO IT NOW*.

Notes from Gretna Green.

Our bees celebrated Christmas by having a flying spell, the first for many weeks, and a preliminary roll-call satisfied me that every colony was alive and well. Each colony has an upper storey of sealed honey, and is packed warmly at the top and sides with chaff cushions, while the entrance is left wide open, and a one inch air space allowed under the bottom bars. By the way, although possessed of twelve stocks, I have only two hives in use, the explanation being that our garden, measuring only five yards each way, inclusive of a footpath, is so small that my only possible way of keeping bees was to make use of an upstairs building as a house apiary. I had some trouble in chiselling flight holes through the stone wall, and in fitting up suitable alighting platforms, but compensating advantages are that hives can be dispensed with, and bees manipulated regardless of the weather conditions outside. The latter feature is of value where, as in my own case, business does not permit of the bees always getting attention at the most suitable time. My stocks are kept in ordinary brood boxes placed inside roomy packing cases, and there is a great difference between the cost of these (1s. or 2s. each) and the price of a hive, to say nothing of the yearly re-painting; besides that, in a house apiary there is no question of leaking roofs or damp quilting. There is a drawback, however, and that is the risk of fire, as I was made to realise on one occasion. While supering on a July day, sudden loud cries indicated that our four-month-old hopeful, taking a sun-bath in the "pram," had received her "baptism of fire" from some wrathful bee. Throwing the smoker aside I dashed to the rescue, and after removing a sting from her head carried the infant indoors.

On returning, I had my second fright, for the bee house was on fire, with smoke and flames bursting forth at one corner. Another dash to the rescue, a pail of water flung over a furiously blazing object and I was rapidly tearing off the remains of section racks and smothering all vestiges of fire. The smoker fuel had fallen out, ignited the quilts, then the wax foundation, section racks, and had I been a little later one colony at least would have been completely destroyed. As it was the top bars were charred halfway through, and hot molten wax had poured down over the brood, but the queen had survived unhurt, and the colony eventually recovered full strength. I have never forgotten the episode, and it may be a warning to others who are keeping bees under similar circumstances.

One result is that my apiary is annually insured against fire, another that I have relegated the smoker to the lumber-room and now use the sprayer in all manipulations of the brood chamber. I also discarded gloves and veil entirely, having no need for them even when removing surplus honey, as the eight different strains of pure Italian bees in my apiary are all alike in being easily handled by myself, and quite harmless to passers-by.

Heather Honey Production.—When the clover honey flow begins queens are in full lay, and all colonies becoming increasingly populous. In August, conditions are different, egg-laying and the working force steadily decreasing, so it is obvious that colonies must be made strong and *kept* strong to secure a good crop of heather sections, and in securing these conditions the divisible hive system of management is ideally suitable for heather honey specialists. The aim here is to have two shallow frame chambers full of brood on the eve of the heather honey flow, and then sandwich the sections between the brood.

One chamber with the youngest brood and the queen is placed on the floorboard, the section supers put on and above them, *but separated by a piece of enamel cloth*, from the chamber of adult brood. The young bees as hatched out find their way down below through a small exit, but they are unable to get back, and the result is a constant accession of workers to keep the supers crowded, without equivalent empty nursery combs left available for brood-nest storage. This system of working is applicable where heather is the sole or main source of surplus honey.

In districts where clover is the main crop, and heather of secondary importance, rather different methods are advisable, and will be discussed in my next contribution on the subject.—J. M. Ellis.

Gretna, December 27.

The Bees of 1921.

During the winter I keep a close watch on the bees to see how each hive goes on, and when I re-number them in early spring I try to get them into order of merit.

Last spring, my No. 1 turned out to be a perfectly correct guess. It started the winter light in stores, and all through was the most active of all the stocks. This I admit is not an altogether flattering characteristic, but it was the only hive that did any good at all. It received during the summer nine frames comb, twelve sheets foundation, and two starters, and it gave away eleven frames brood, with most of adhering bees, and 45 lbs. honey. It is wintering not very rich on two standard storeys, and this year is the *least* active of all the stocks.

This year a new strain is running up well for first position. A swarm came to me on June 1, and was housed on ten shallows, with ten more on June 14. It has given away altogether 27 shallow frames of brood or eggs, mostly with adhering bees and all its flying bees twice —June 18 and July 19. There are four surviving daughter stocks i the apiary, and two of them, as well as the mother lot, are more than normally active during the present winter. The other two, well packed down with lots of stores, are much quieter. I suppose it will not be till April that I shall add up their good conduct marks and re-number them. One does not like to make a list that will subsequently show gaps through spring dwindling.—G. G. Desmond, Sheepscombe, Stroud, Gloucestershire.

Appliance Manufacturers and Legislation for Bee Diseases.

[10364] I have before me a letter sent out by E. H. Taylor, Ltd., Bee Hive Works, Welwyn, calling a meeting at the Charing Cross Hotel for December 8, at 11 a.m., for the purpose of organising opposition to legislation for bee diseases.

I would like to send the letter to you for publication in its entirety, but it, together with what I desire to say, would occupy too much of your valuable space.

It would appear that Mr. E. H. Taylor is no longer connected with the firm. I do not know, neither is any indication given as to who comprises the company, but the letter is signed W. L. Lordan, Managing Director. This is a name new to the bee world, as it is the first time I have seen or heard of it in all my long experience of bee-keeping. It is also a new experience for a firm of appliance manufacturers to try and interfere with the politics of bee-keeping, which so vitally affect their customers.

The whole letter shows a total lack of knowledge of bee-keeping, and the history of the overwhelming desire on the part of practical bee-keepers for legislation. If Mr. Lordan or his co-partners would care to spend a few days with me on tour as an expert, it would convince them more quickly how very badly legislation is needed than any meeting in

secret conclave of the very few partisans against it at the Charing Cross Hotel that it is not desired.

Although evidently ignorant of the subject of bee-keeping and its needs, Messrs. Lordan & Co., are evidently cute business men, and have a watchful eye for the dividends on their shares.

I can imagine them saying: "If this legislation comes into force it will limit the number of bee-keepers, Dick, Tom, and Ellen, with a lack of knowledge of the subject, who under the present conditions of immunity from compulsion to keep bees under proper hygienic conditions, with an idea of adding to their income without much trouble, will be scared off it, and as these people form the larger portion of our customers for bees and appliances our trade will suffer, therefore we must find some reason for opposing legislation." Finding a few kindred spirits, also fearing financial loss, this leter calling the meeting is the result.

The meeting of representative bee-keepers convened by the Ministry of Agriculture on February 6 of this year gave an overwhelming vote in favour of the present Bill. If I remember rightly, only one hand was held up against. The proceedings of that meeting, together with the names of all those present, and the bodies they represented was published, and I have been waiting to see a similar report of the Charing Cross Hotel meeting. It has not appeared, therefore I conclude that, as has been the case in the past, the opposition fears the light of day, and prefers to carry out its work by subterfuge. If not, and it is perfectly honest, then it has nothing to fear from publicity, it should be heard and considered according to its volume and standing as representative of the bee-keeping industry.

Now, Mr. Lordan, as convener of that meeting, come out into the light, as those in favour have always done, and fight fair and above board for your convictions, or trade. Let us have an account of the proceedings of that Charing Cross Hotel, or any other meeting, with a list of the names of those present, and particulars of whom or what they represent. I am sure, from past experience of its fairness and impartiality, the B.J. will publish them if sent.

The real purport of this letter is this. Manufacturers are evidently desirous of not only making their living out of the manufacture and sale of appliances, and also the sale of bees, but also wish to dictate the most difficult conditions under which to work to those whom they supply with goods. To this no self-respecting bee-keeper will submit.

For instance, they have killed the Standard Hive project. They evidently combine together to obtain the maximum profit for their goods, and so destroy healthy competition and fair prices. If this is not so, why are prices in all catalogues exactly alike to a penny, and now just when there is a fair chance of obtaining legislation, we have a firm, apparently for financial reasons, trying to prevent the actual bee-keeper from obtaining that protection for which we have been fighting for so many years, and which will enable him to carry on his work with a fair measure of success, and compete with the foreign honey which is now flooding our markets.

I suggest that it is time bee-keepers combined for protection against the dictatorial methods of appliance manufacturers. Is it not possible to form a co-operative scheme whereby bee-keepers could have their own appliance factory, and so avoid the annoyances of inflated prices, bad workmanship and material, delay in delivering goods, now prevalent with the exception of one or two firms, and scotch the new idea of participation in the politics of bee-keeping? Or, failing this, to combine and resolve to purchase goods from those firms only who stick to their own job, and leave the conditions governing practical bee-keeping to the bee-keepers themselves?

I hope you will see your way to publish this letter, and that you will permit comments and discussion, so that action may be taken in the near future on the lines indicated.—G. JAMES FLASHMAN.

Owing to the space taken up by the title page and index this week we have been compelled to hold over "A Dorset Yarn," "Jottings from Huntingdonshire," and several other articles and advertisements that are in type.

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One Penny per Word.

PRIVATE ADVERTISEMENTS.

BEAUTIFUL Somerset Clover Honey for Sale, 15 28-lb. tins, sample 3d.; also 10 Section Racks with tin dividers. Wanted, few Lee's "Holborn" Hives.—WYATT, Bishopswood, Chard. l.1

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HONEY, 2 cwt., in tins.—What offers to clear?—BATEMAN, Eglwyswrw, South Wales. 1.22

WILLOW HERB completes the bee garden; dozen roots 2s. 6d.—BOWEN, Apiaries, Cheltenham. 1.20

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CORRESPONDENCE Courses in Bee-keeping.—H. E. NEWTON, Hobart Road, New Milton, Hants. r.k.69

NOW BOOKING ORDERS, delivery January, February, March, £2 sittings of Eggs and Day-old Chicks (Barron's), White Leghorns, Brown Leghorns; White and Fawn and White Runner Ducks, White Wyandottes, sittings 10s. 6d. to 35s. a dozen, Chicks double.—MRS. M. ANDERSON, Poultry Dept., Hermitage Poultry Farm, High Hurstwood, Sussex. Manager: Miss M. D. Sillar. k.93

PURE LIGHT CAMBRIDGE HONEY (guaranteed), 14-lb. tins, 30s.; 28-lb. tins, 57s. 6d., carriage paid.—YOUNG, 42, James Street, Cambridge. r.k.145

ERICA CARNEA, the heather that blooms in February, dwarf bushy plants, now showing bud, quite hardy, 4s. dozen, post free.—S. E. LYTLE, Dunbryan, Formby, Lancs. r.k.138

BUSINESS ADVERTISEMENTS.
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IMPORTED ITALIAN QUEENS FOR 1921.—List on application.—PEARSON & GALE, Marlborough. r.k.88

DEVONSHIRE.—Old Cottage with large garden, £100; Symonds Yat, two plots land, 1 acre and ½ acre. Herefordshire, seven-roomed Cottage, ¾ acre land. All vacant and freehold. Ideal bees. Particulars, stamp.—SMITH, 117, Gt. Hampton Street, Birmingham. r.k.142

LANTERN SLIDES ON BEE-KEEPING, photo-micrographic and practical. Bromide Enlargements for demonstration purposes. Prints on approval. No slides for hire.—REV. G. H. HEWISON, Marr Vicarage, Doncaster. 1.4

DON'T BUY BEES until you have seen our prices and guarantee. You risk nothing, as we return money in full if bees fail to give complete satisfaction. Illustrated Catalogue free on application.—PEARSON & GALE, Marlborough. 1.17

EXPERT wanted to take Spring and Autumn Tours for the Warwickshire Bee-keepers' Association; salary £6 per week during tours.—Apply, INGERTHORP, Knowle, Birmingham. 1.9

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FLAVINE BEE CANDY, 6lbs. 9s., post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. 1.25

ENSURE A GOOD HONEY CROP this year by purchasing one of our noted 6-frame Italian Stocks. Illustrated Catalogue free on application.—PEARSON & GALE, Marlborough. 1.16

INCOMPARABLE Cream Candy.—Let the bees test it; 6lbs. 9s.—BOWEN, Apiaries, Cheltenham. 1.21

ARTISTICALLY Illustrated Catalogue in connection with Dutch Bees and Bee-keeping sent free on request, containing information about queens, management, etc., making it an interesting booklet.—WHYTE, "The Bee Farm," Cumbernauld, Dumbartonshire. r.k.144

MASHEATH HIVES are made by their designer and originator, M. ATKINSON, The Bee Park, Fakenham, who will be pleased to reply to all inquires. r.k.141

BEES AND QUEENS FOR 1921.—Send for our new Illustrated Catalogue, free on application.—PEARSON & GALE, Marlborough. 1.15

ITALIAN QUEENS direct from Italy.—Address, E. PENNA, Bologna, Italy. Prist List for 1921 on application. r.k.121

IMPORTANT!—In spite of the increased cost of appliances and carriage, we are offering our celebrated 6-frame Stocks at reduced prices. Catalogue free on application.—PEARSON & GALE, Marlborough. 1.14

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FINEST ENGLISH HONEY, in 28-lb. tins, 1s. 11d. per lb., carriage paid. Satisfaction guaranteed.—PEARSON & GALE, Marlborough 1.13

A WELL-ESTABLISHED FIRM wishes to hear of bee-keepers who would guarantee to supply them with Nuclei May-June next.—Box 107, B.B.J Office, 23, Bedford Street, Strand, W.C.2. r.j.42

400 USED Commercial Frames in flat, sound condition, guaranteed healthy; 25 for 5s., postage extra.—PEARSON & GALE, Marlborough 1.12

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45 Years a Bee-keeper and thinks our Bees The Best!

"The 6-frame stock sent me in June has exceeded my highest expectations. Here in the Midlands we have had about the worst season within living memory, but, in spite of that, the stock has developed into three strong stocks, and worked out over thirty splendid standard combs, mostly from starters; all this without any help in the shape of feeding. I have been a bee-keeper for 45 years, and during that time have had many different races and crosses of bees, but your Italians are the best. I shall recommend you to my bee-keeping friends."

W. Hollins, The Rawnslow, Sandon Bank, Stafford.

Catalogues of Bees and Queens free on Application.

PEARSON & GALE, Marlborough.

Legislation on Bee Diseases.

Do not forget to send a postcard to your M.P. and to the Minister of Agriculture, Whitehall, London, as advised in our editorial last week. The secretary of the Bee-keepers' Association in one of the largest counties has already received the written promise of support for the Bill from every M.P. in the county. Have you done your share?

Seasonable Hints.

The continued unseasonable weather will cause a rapid consumption of food, and we again urge the necessity of keeping up the supply. Sugar is cheaper, and the price of manufactured soft candy is also lower. Do not, however, on any account be tempted by the lower price of brown sugar—even though it is pure cane—to use it for bee food, either candy or syrup. It may appear somewhat out of season to give a warning to be on the look-out for robbing, but this may happen on a mild day; in fact, we know at least one colony was robbed out on December 26.

Our Deposit System.

This has proved of great value to many of our readers. We find a little alteration in the rules governing it are advisable. In future the fee to cover our expenses, and commission of 2½ per cent. on the amount must be sent with the deposit. For £1 or under, this will be 1s., and 6d. for every £ or part of a £ beyond. The revised rules will be printed as soon as we can spare the space.

Contributions to the B.B.J.

We have received a number of letters on this matter, including one from Mr. Ellis. Our note on page 627, BRITISH BEE JOURNAL of December 30, was final, and we do not propose to publish further letters on the subject, beyond what were already in type. We have neither time nor space for a fruitless controversy. We thank the many who have written in appreciation, and also those few who have criticised. We have no wish to smother criticism, that we think has been made plain; we would rather encourage our readers to let us know their views. We are always pleased to have them, but not necessarily for publication.

A Dorset Yarn.

Sunday after Christmas was very mild. Bees were very noisy, all seemed to be flying round. They found the Christmas rose flowers, though they were not fully developed (the male parts of the blooms were tightly packed together); they must have found the small quantity of nectar that is at their base or they would not have wasted time on them, there could not have been any old bees to remember them last year. The perfume of nectar had lured them away from the hives. They have all ample stores, and consider it to be largely heather and rasps, as these were the flowers that were very abundant in the autumn. We have left some shallows on with partly-filled combs, several with partly-filled sections, and one with standard bars of comb above (four of them were finished). It was a waste of saleable honey, but one wanted to see how these hives shaped up next season. One writer in the JOURNAL advised shallows on top for wintering; but have left one with five or six combs full of capped honey. On Sunday the bees were taking stock of it. They did not move about like robbers, but as if they were seeing that their stores were safe. I have not seen standard bars of comb on top advised; but have left them on a migrant lot of blacks that came in July and took possession of a hive that had bars left in and had been robbed out the previous spring.

This lot of bees are very strong, and are always at the entrance if the weather is mild. I sometimes think it is the fowls that disturb them, as they dust themselves under the hives, and some of them lay their eggs there; but very black bees are more restless than are others. I remember buying some at a sale when the snow was on the ground one winter. These black bees were at the entrance of all the skeps on the day of sale. I also notice that these restless bees have none of the high-coloured excrement outside the entrance that others, which have not been seen so much in winter, have. There are two natural July swarms that have not yet eaten their stores up to the top of bars, but they were flying strong this last week, which is proof that they are wintering well. These are all on new combs, all with their own stores (no sugar), neither have they any covering of sections or shallows—just a board covering with a bee space beneath, placed on top of the brood chamber, with a peep-hole of glass, thick felt on this, and Hessian bags over the felt. This board covering with a small strip tacked on the bottom edge covers the whole of the brood chamber out to the metal ends. The

small strip on the lower edge gives the bees in search of food in winter space over the bars, they have not to go down to get to another comb of food. I like this better than the strips over the brood nest beneath a quilt, as one cannot see them at all in winter; but every bee-keeper has his special fancy for wintering, and so long as they come through safely it does not matter which way they are covered up. With strips of wood and strong quilt I find bees are apt to eat through, and if mice take possession they will eat through. I have taken to putting strips of thin flat tin and hoop iron along the entrance, so that they should not eat a hole through the entrance, leaving the whole length with bee space along the front, which can be reduced to a small space if robbing is attempted. In summer a small strip at each end of front gives more freeway, and also will let in more air.

On Monday, the 27th, bees were out more than on the Sunday. They were away on ivy, quite forty yards away from the hives. The ivy has a flower like the aralia, which also blooms in winter. One could see many of them bursting in the warm sunshine. Books tell us "it is when on the wing in winter that bees draw largely on their stores," but books also tell us that "soon in the new year, when very strong the queen bee will start laying," as soon as the young can be kept warm. Then another year of pleasure with the bees will begin, another year of productive employment, "something attempted, something done," all will make the nation richer. Each ton of fruit, each ton of potatoes, with honey by the cwt. from the land in Dorset, there will be so much less to spend in other countries for the necessary foodstuffs required for the 45 millions of people in our own loved land. Only by labour and toil can the heavy crops of food be produced; never be content with average crops. Labour spent in tillage will give above the average, and in seeing to the extra tillage and the extra fertilisers producing heavy crops, then man takes pleasure in work, "one's whole soul is composed into a kind of real harmony when at work." This sounds either like Carlyle or Ruskin, but it gives the sense of how the toiler feels when at work on the farm, whether with the bees or on the land.—J. J. KETTLE.

Echoes from the Hives.

To-day, very mild and warm. Bees flying splendid, and no losses, so far. Most hives taking in pollen, and on a slight examination find candy mostly all consumed. R. LITMAN, Castle Cary.

Jottings from Huntingdonshire.

The season's compliments to all brethren of bee craft—we have good hopes of 1921, and I trust that a year hence bee-keepers may look back with great thankfulness for a happy and prosperous time with the bees.

I must crave a little space, Mr. Editor, to say "thank you" to all those readers of THE BRITISH BEE JOURNAL who have written me at this time. Some few days must elapse before I shall be able to answer them all, so I trust they will understand from these notes that replies will come along. Quite the majority of my correspondents are unknown to me, and they write from all parts of the world. It would be interesting to know to how many foreign countries THE BRITISH BEE JOURNAL finds its way. Might I suggest that some of our friends in other countries occasionally give their experiences through the columns of the JOURNAL, or if they feel nervous about sending a letter to a real, live Editor, will they give me permission to repeat some of their experiences? Our Editor is the most sympathetic of men, but somehow or other, abroad, editors of English periodicals are referred to with great awe. I have many pages from a very interesting writer, who, however, beseeches me not to mention any of his remarks in my Jottings unless I have had like experiences and can make them my own.

So far as the bees were concerned, the year ended with great excitement. On Christmas Day I never saw such merry-making. They were flying in crowds, and fully appreciated the genial—almost too warm—sunshine. A few daisies flowering in sheltered corners were scenes of squabbles, a dozen bees or so wanting each flower. The yellow aconites were also crowded with visitors from the hives. Some of the bees went off to seek Christmas roses; but quite the majority thought it a day for fun. Not that I think they knew the day, and entered accordingly into its festive spirit, but I do think that the day being still, and the air filled with the vibrations of ringing bells coming from every quarter, had something to do with their young-lamb-like antics.

This mild spell—not, I think, good for the bees—has given a good opportunity for looking through the hives, and it seems pretty certain that some of the queens will soon be laying. Those people whose stocks gathered so much honey late which never ripened, and was consequently not sealed over, had better look out for signs of dysentery. Should it appear, remember that too much ventilation cannot be given providing the hive is warm and dry, and personally, if I saw signs of it,

I should place Flavine candy over the brood chamber, even if there were loads of store. If anyone should ask—"Will bees eat candy when they have plenty of honey?" I should reply "Yes, bees feeling unwell are only too ready to try any fresh food that may be at hand, providing it is not repugnant to them." At any rate, candy should be at hand for the food consumed at this season, when the thermometer—as it is doing at the time of writing—hovers round about 50 deg., is immense.

Mice are beginning to be pests, even gnawing holes through the hives. To poison them is easy, but one always fears a cat or dog might eat the poisoned mouse, and trouble ensue. If a persistent nuisance, the only safeguard, it seems to me, is to paint the hives over thickly. Wet paint is not an attractive element to a mouse, and even when it dries the taste of the lead will soon sicken the little rodents off their desire to get within forbidden quarters.—E. F. HEMMING, Steeple Gidding.

Notes and Comments.

It is interesting, in the light of Dr. Rennie's discovery, to read Mr. Simmins' 1914 edition, pages 146-147 and on. There Mr. Simmins distinctly states that *Nosema apis* cannot be the cause of "Isle of Wight" disease, and says that it is caused probably by the spiracles being congested by the action of some obscure disease germ, as in the case of ordinary paralysis, and says that "the cause will probably be discovered, not in the bowel but in some other important organ."

There is one thing that rather puzzled me, and also others, which you may be able to explain. It is that it seems extraordinary that this parasite was not discovered long ago. Of course I do not understand microscope work, or I should not have to ask, but it seems strange to a layman that with so many scientists examining bees for years, a parasite, of which photos could be taken showing it in a most unmistakably obvious way, should have so long escaped detection, especially when attention had been drawn by a well-known and very practical beeman to the probability of the breathing apparatus being the place to look.

On page 617 I see your correspondent says that there are men sincerely opposed to legistlation. There may be, though I have not met one myself. I thought everyone was agreed as to the desirability of a measure of legislation. Of course men hold different views of what that measure should be, and there are many who think that nothing could be worse than the proposed Bill. In fact I have heard your correspondent say as much for himself.

However it matters very little.

Re your note on page 614.—Q. E. D. But then why do bees winter so well on syrup? How about pollen? What do bees want vitamines for during hibernation or semi-hibernation? Of course, when you get on to the spring, honey will cause bees to breed faster—because of the vitamines I suppose.

The whole matter is put down very plainly in "Gleanings in Bee Culture" for December, by Mr. Root.—R. B. MANLEY.

[We are unable to offer any explanation why Tarsonemus was not discovered long ago. The mites are certainly big enough to be easily found. It is one of those things, to quote Lord Dundreary, 'No fellah can understand." So far as we can see, all the investigators made the very common error of mistaking cause and effect. One of the most usual symptoms of the disease is the swollen abdomen caused by the accumulation of undischarged fæces in the bowel. The complaint was therefore diagnosed as a disease of the stomach and bowels, and the investigators concentrated on that part of the bee. Other bee-keepers, besides Mr. Simmins, held the view that the air passages were concerned with the disease.

Re vitamines.—Bees will *winter* almost, if not quite, as well on good, pure, cane sugar as on honey. It has one advantage in that it does not contain any pollen, which is not suitable for winter food. It is when breeding commences that the sugar is at a disadvantage. We think you mean "Gleanings" for November, and, for the benefit of those who do not take it, we quote what the editor of that paper says:—"Lest our position be misunderstood, we will admit that sugar stores fed early, and sealed in the combs, are equal to or possibly better during the *coldest part of the winter when the bees are not breeding;* but after that *honey* stores are unquestionably better. When a colony has exclusively sugar stores it incurs the great danger of spring dwindling if the spring is bad, because there will be no young bees to take the place of the old ones dying off. Sugar stores are likewise probably equal to, or better, during the period of actual confinement in cellars. When we say 'sugar stores,' let it be understood that no brown sugars will answer. Some of us learned to our sorrow last winter, when we could not get granulated sugar, that brown sugar stores contain too much gum. Better by far have an inferior honey than any brown sugar or molasses."

Probably the larvæ need both pollen and vitamines.—EDS.]

The New Annual Sweet Clover.

(*Melilotus Albus.*)

I am sending you a few rather poor photos of this plant growing in my garden in Berkshire in the past summer.

Mr. A. I. Root has been testing annual sweet clover for some time now, and has published results frequently in *Gleanings*, together with photographs showing the process of its growth.

The pictures herewith were taken at different times from mid-June to September, and it will be seen that the growth is very rapid.

Planted at the end of April, bees were working on it by the middle of June; and by the beginning of July the patch was a mass of blossom, and covered each day with bees. They were still working it in November.

There is no doubt that this plant is a wonderful honey producer, and the fact that it grows freely on very poor land gives it an added value.

No doubt it is a good farm forage plant if treated in the right way, but I fear it will be long before it takes in any way the place of lucerne in this country.

I would suggest that bee-keepers here procure small quantities of seed and sow it in waste places, such as chalk pits and embankments, and see what it will do.

Reports from America state that any kind of rough place will do, but that it prefers lime in the soil.

Anyway, if you want to see bees work, plant a small patch in your garden. I understand that it will seed itself and come up fresh each year. I cannot imagine any weeds getting much chance with it when once it gets a start.—R. B. Manley.

The Annual Sweet Clover.

The Past Season in East Stirlingshire.

If my tale is not too doleful for publication I will give you a short account of how it fared with me in the Eastern district of Stirlingshire during the season which has passed.

In the autumn of 1919 I put four stocks into winter quarters, and all were well and working on the gooseberries in April. My apiary is at the edge of a 6-acre orchard and fruit garden, so I have no lack of spring feeding. In the vicinity there are also a lot of sycamore or plane trees, chestnut and hawthorn trees to tide over until the fields yield their store from charlock, beans and clover, and for a finish up there is a fine avenue of limes just over the wall from where the hives are located.

After the gooseberries were over the weather was somewhat cold, and it was the second week in May ere I got my stocks transferred to clean hives. All were in good condition, except one that the mice had got into and made a mess of four combs. This stock was headed by

a black queen which I had got from one of your advertisers the previous August, costing 4s. 6d. The apple blossom was now on, but one night of white frost followed by some days of heavy wind and rain, and that source of income for the bees was finished—also the apple crop for the fruit grower—and I had to put on the feeders.

The plane tree, chestnut and hawthorn blossom passed, and still nothing doing, the weather being still cold and wet. I then had a walk round the country; I scoured it for miles, and found everything in the shape of bee forage about a fortnight behind, for all the bees got or had the chance of getting. I don't know if the fields of charlock ever bloomed.

In due course supers were put on, and nuclei for increase formed. I took the trouble to buy young fertile queens for them. Out of eight virgins of my own rearing I got three mated, and two of them were in August.

June and July passed, and I was still waiting on the honey flow to come. There certainly was a continuous flow all the time—but it was rain.

In the meantime, not being satisfied with the pace my 4s. 6d. black queen was coming on, I put her into a small nucleus and re-queened with another of a reliable strain.

About mid-July I was going on my holidays, and looking through my stock I found a swarm had decamped, and where there should have been a fertile queen there was a virgin three weeks old. I put her out of pain and transferred my despised black bees, combs and brood, into it and left them.

When I came back at the end of July there was about enough nectar coming in to keep the queens going, but nothing in the shape of surplus.

It was coming near time for getting ready for the heather, but the heather was late, so I let them stay at home. The limes came into bloom the first week in August, and I thought "now I will get something"; the weather was looking better, at any rate. On August 8 they were working hard; the morning of the

Sprays of Sweet Clover.

(Two other illustrations will appear next week.)

9th gave promise of an ideal honey day, but just about noon the clouds began to gather, mid-afternoon the rain came down; it only rained for 1½ hours, but it was "some" rain: every hollow was filled, the streams burst their banks, and there was quite a miniature flood. Next evening I visited my bees; the flowers on the limes were washed out, and my last chance of surplus gone. I resolved there and then not to go to the moors. That was Tuesday night; on Saturday afternoon I was packing for the journey on Monday morning.

I had, unfortunately, only four good stocks to take. I might, by uniting, have got another two, but I wanted increase. A friend came to help me, and when transferring the bees from a hive with two storeys of standard frames into an eight-frame heather hive, he said I would never get the bees all in. It held them, however, but that twenty frames only gave me six combs of brood, and some not too good at that; the queen had not been fed by the bees to do all that she could do. When I came to my despised black bees I found eight good combs of brood, and some to spare, and a fine lot of young bees. The queen had only wanted a chance to show what she could do. I got them on the moors on the morning of August 16; they were closed up at 5.30 a.m., and by 9.30 a.m. they were out flying in their new location, and not a score of bees killed on the journey. I had them all right by mid-day, and having a few hours to wait for my train home, I had a walk round the moors. The heather was just in half-bloom, but showing good promise. Before I left the bees were working on it although there was a strong westerly wind blowing, but they were in a fine, sheltered hollow, and unless out in the open the wind would not hurt them. Next morning, August 17, it came on to rain, and while not as heavy as the rain of the 9th, it fell incessantly for 24 hours. When we got out on the morning of the 18th the place was in a flood, the water was rushing along the streets like a mill race, and in every direction there was nothing but a lake of water—a good beginning for the heather! By mid-day of the 18th it was fair, and the weather improved. Not hearing from the farmer where the bees were located I took it for granted all was well. I had arranged to see them on August 23. Meantime, the weather got better until August 25, when a week of ideal bee weather began; it was only for a week, and then it was more or less broken. When I went on August 28 to see how they were getting on and met the farmer he unfolded his tale of woe. For 17 hours on August 18 the hives had been flooded, the water had been up about 2 inches over the flight hole, but they had been working hard since then. There was a field of turnips at the back and side of them. These were being thinned, and every day after the bees started flying the workers were hunted until they went out early in the morning and got the work done ere the bees started.

I expressed my regrets, but was told, "That is nothing if you have got honey and the bees are not ruined with the flood." I soon found all was well, and a look through the hives let me know what had been done. My 4s. 6d. black queen, which had the worst of the flooding, had 25 sections in a more or less advanced condition; an Italian, which was clear of the water, was doing good work on a 15-section rack, and the other two were giving creditable account of themselves. Unfortunately, the weather broke on September 3, and while the heather did last another 10 days, the best was past, and I brought them home. I had sufficient sections to sell to clear heather expenses, a little bit of section honey over for household use, and each hive had a well-filled larder, which was a big relief in those days of scarce sugar.

If I have not taken up too much of your space I should like to say a little about some of the letters that have been appearing concerning heather honey in recent issues. I have not a location nor weather like our friend in Derbyshire. Generally, if I get 10 or 14 days' good weather at the moors the bees do very well, but it is more often about seven days' really good weather, and if I got that every time I would be pleased, but when I hear of another having a month's good heather weather then he is in luck.

Mr. Ellis is missing some of the writers that used to contribute to the Journal since he came to Gretna. His own contributions have not been so frequent as when he was located in Ussie Valley, Sutherlandshire. I don't think his heather honey will be so good as it was in the far north.

I don't find that if the weather is fairly good that there is any scarcity of bees in the hives when the bees are brought from the moors, as Mr. Price has experienced this year. I had to draw the ventilators full out for a month with a full entrance on the hives that were at the moors, so crowded were they when they returned.

Mr. Harmer, you are quite right, heather honey production is a gamble; but what is summer without bees, and what are bees if you have no heather honey? I was quite interested in "An

Able Bee's " description of the best subsoil for heather honey, he might give us a little more of his experience at another time. I might go a little into the matter also.—J. C. A., Grangemouth.

North Cheshire Notes.

Re Mr. Houston's remarks, THE BRITISH BEE JOURNAL, December 30, on de-queening (10361), my experience with native bees has in the past been exactly the same as his with his Italians; they have immediately " downed tools " on being de-queened.

Not having had enough experience with Italians to make any definite statement *re* brood control, I await with interest the experience of others who have.

I think his note of warning as to the causes of " Isle of Wight " disease is timely. One of the causes has been discovered, possibly two, i.e., *Tarsonemus woodi* and *Nosema Apis*. I would not be surprised to hear of another. It has been very evident to my mind that more than one cause was responsible for so-called " Isle of Wight " disease. One wonders now what was the original cause of the epidemic that started in the Island about 1904 (I think that was about the date). I am inclined to think *Tarsonemus woodi*. Whether I am right or not matters little; but a letter I chanced to come across during the last summer in an old copy of *Country Life*, dated 1911, may be of interest. This letter stated that an apiary situated at a gas works somewhere on the Island at that date had not been affected with the disease that at that time had practically cleared the entire neighbourhood of bees. The sulphur fumes might not have agreed with the health of *Tarsonemus woodi*.—D. J. HEMMING, Appleton, Cheshire

Twickenham and Thames Valley Bee-Keepers' Association.

WINTER AND SPRING PROGRAMME.

LANTERN LECTURES ON BEE-KEEPING
will be delivered by
W. HERROD HEMPSALL, F.E.S.
(Expert and Lecturer to the British Bee keepers' Association), on

MONDAY, JANUARY 17, 1921, at 7.30 p.m.,
At WESLEYAN CHURCH SCHOOL HALL,
TEDDINGTON
(Near L. & S.W. Railway Station and Trams),
" Elementary Bee-keeping."

Entrance Free.
All persons interested in Bees and Bee-keeping are invited to attend.
Hon. Sec.: MISS M. BYATT, Hawthorne, Hanworth, Middlesex.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Appliance Manufacturers and Legislation for Bee Diseases.

[10365] I was very pleased to see your editorial in BRITISH BEE JOURNAL for January 6 *re* Legislation. I quite agree with you that the matter rests with bee-keepers. You certainly have done your best in the past to ventilate this subject, giving both sides an equal chance to express their views. I know the Anti's grumble, and accuse you of partiality, as such a few Anti-articles appear. But that is the fault of the very few opponents and not yours. At any rate, I am with you all the way, and am not only carrying out your suggestion, but getting as many others to do the same as I possibly can.

With regard to Mr. Flashman's article, I cannot help thinking that his statement that the new managers and shareholders of E. H. Taylor, Ltd., Welwyn, are ignorant of the efforts made by bee keepers in the past to secure legislation and the dire straits the industry is in by the absence of the control to prevent spreading disease, which is enjoyed by practically every other country in the world, hence the ability of other countries to swamp our markets with their produce to the disadvantage of British bee-keepers. To enlighten them, may I take a leaf from your book and suggest that bee-keepers not only send a postcard to the Minister of Agriculture, but that they send one to Messrs. Taylors? By this means they will be able to realise that they have put their money on the wrong horse. POSSESSOR OF ONE HUNDRED AND TWENTY STOCKS.

[10366] I note the letter of Mr. Flashman in the BRITISH BEE JOURNAL of January 6 *re* appliance manufacturers and legislation for bee diseases, and in connection therewith I wish to make my position perfectly clear. My experience of bee-keeping and the appliance trade extends over thirty-five years, during which time I have communicated and conversed with more bee-keepers than any other per-

son in Great Britain. From the views expressed by the bee-keepers I have come in contact with, together with my own personal experience in visiting and setting up apiaries, I am certain that legislation is necessary and desired by 99 per cent. of bee-keepers in Great Britain, and that bee-keeping would be more profitable if we had control for checking the spread of disease. Briefly, I am, and always have been, in favour of legislation as proposed in the Bee Diseases Bill now before Parliament.—ROBERT LEE, UXBRIDGE.

Wigtownshire Notes.

[10367] In response to the request of the Editor for contributions from Scottish readers, I will give a few notes from Wigtownshire. This has been a very bad honey season, and we never had a finer show of clover and heather. Some fields were as if snow had fallen, white with clover blossom; but the weather continued so cold and wet, the bees stored no surplus, and had to be fed during the first part of the season. However, they had to be doing something, and they went ahead, rearing queens and swarming. One day three swarms came off, and all went together, and they made "some" cluster; after being hived, a great number seemed to have gone back to their original hives.

In answer to Joseph C. Wood (10345), I think he has made a mistake about bell heather. It is in full bloom in July, not August, as he says, though both kinds were later this year. I have kept Italian bees for the last two years, and have found them do all right, and to-day, December 20, for about two hours they have been quite busy after about a week of frosty weather. I always look forward to the weekly advent of the JOURNAL and enjoy looking through its pages. — A. AILAN.

Contributions to the B.B.J.

[10368] I have followed the arguments for and against articles containing matter other than that of actual bee-keeping with considerable interest, and am going to risk utter demolition by expressing an opinion in favour of an extension of the horticultural side. It seems to me to be nearly as important to bee-keepers to know what to grow for fodder as to know how to keep the foragers, and if we can get experts to tell us how to grow the various plants to get the best results so much the better. For instance, we all should know that the raspberry is a grand nectar-giver, but do we all know the variety most suited for our position and soil? Again, by wise selection it is possible to greatly extend the period of flowering. The same argument will apply to all kinds of fruits. My own idea is that it is as easy to grow the finest varieties as any other, with far more satisfactory results, i.e., you might as well grow Bramley's seedling apples as a wild crab. The bees will benefit in either case.

So, Mr. Editor, if I may make a suggestion, why not devote a corner of the JOURNAL to telling us what to grow and how to grow it, for I am sure it would fill a real need; also it might be possible to give hints on how to prune, manure, etc. Bee-keeping by itself will not make a man rich, but by adding fruit-growing it will give a very good living.—G. JAMES FLASHMAN.

[We are sorry we cannot see our way to fall in with Mr. Flashman's suggestion. We quite agree with him that it takes no more time and trouble to grow the best varieties of fruit, vegetables or flowers than it does to grow inferior kinds, but we have not the space available for a gardening column every week, and for the present we cannot, for various reasons, enlarge the paper.—EDS.]

Trouble from Eating Honey.

[10369] I read in the BRITISH BEE JOURNAL of December 9, page 594, that Mr. Manley can't eat honey. I wonder why so? By the way, perhaps, it will interest your readers if I may be permitted to relate my experience *re* eating honey and the influence it produced upon my system, some thirty to fifty years ago, in the days of skeps and brimstone.

Then I could not eat honey; in fact, I dared not, for if I would only take a smack off the tip of my finger it would immediately cause severe griping pains in the bowels. Another member of the family was so sensitive that even the odour arising out of honey was sufficient to cause her the same unpleasant effects. But since carrying on the bees on modern principles, now well nigh thirty years, we both can eat honey, and *do* eat of it, without any ill effects whatever.

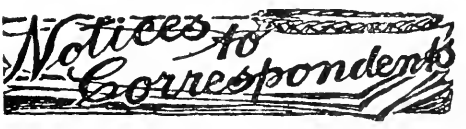
I have never been able to account for it, but put it down to the brimstone fumes that rendered it disagreeable to our constitution. I do not remember of having ever read of similar experiences in any bee publication, but here in my own neighbourhood are several who complain of honey taking the same effects upon them in former years. Though I have not heard a single complaint of honey produced by me and disposed of during the whole of the latter period.—D. BATEMAN, North Pembs.

Aluminium Extractor.

[9917] I propose having an extractor made of aluminium to prevent rust.

Would this in any way be detrimental to the honey?—A. B. FOUR MARKS.

REPLY.—So far as we know it would not harm the honey. Possibly some of our readers may have had experience of aluminium vessels as honey containers. If so, we shall be pleased to hear how it answers.



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The cure for, and preventive of, "Isle of Wight" Disease. Non-poisonous—free from stain or unpleasant odour.

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Made in our own factory by bee-keepers for bee-keepers
6 lbs. post free **8 6** **10 lbs.** post free **13/6**
Guaranteed from Pure White Refined Cane Sugar.
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SAVE MONEY this winter by making up your own hives. Particulars of wood cut ready to make up into hives will be sent free on receipt of a post card.

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A Fortune from 'White Star' Bees!

A client, after using "White Star" (30 years' line-bred) Pedigree Queens, says they are going to make his fortune! Another, a lady, who purchased a "White Star" nucleus, cleared over £40 in actual cash the second year from the original investment (800 per cent.). Full particulars in the Queenland List.

Safe arrival of queens and nuclei guaranteed, and carriage paid. Should any queen be lost from a nucleus within three weeks from delivery, we guarantee to send another. Every queen is warranted for six months trial, and 1921 reared.

Full Queenland List, 4d.; Revise only, 2d.; of S. SIMMINS, Queenland, Heathfield, Sussex.

THE SECRET OF RAPID INCREASE.

How to develop Nucleus (and other) Stocks, ready for Supering; for extensive Increase; and finally for success in wintering.

I am frequently asked the best way to ensure the rapid development of nuclei, so that they may become full stocks ready for supering, suitable for further increase, or, finally, for successful wintering.

Much could be said about "How not to treat" a nucleus, bought with the expectation of its becoming a profitable stock. So many purchasers do not realise the necessity of keeping a constant watch upon the progress or development of the brood nest; but without such persistent and careful inspection of the one most important item, it is quite useless for the

"I am very pleased with the Nucleus you sent me last year. It has wintered splendidly, and is going ahead very fast just now. I have lost eight hives this spring, including Dutch, Italians, and natives." C. L. W.
Knutsford, May 11.

owner to expect any reasonable extension of the population.

It will hardly be believed that in some cases this essential item is so sadly neglected that the owner does not discover that the queen may have been missing for several weeks before he realises the sad calamity; time enough for the nucleus to have made a rousing stock.

Frequently the combs of a nucleus are spread with sheets of foundation as soon as received, and no attempt made to supply any food, the result being that the small stock is almost ruined, and will not recover for a lengthened period, unless weather conditions are very favourable.

Another thing, no nucleus should be given metal combs, as these will only bring disaster. Such combs may possibly be of service for extracting purposes, but no practical bee-keeper will ever recommend them for use in the brood chamber. Nevertheless, for either purpose nothing

"I shall come to you for bees again next year, as the Nucleus you sent me was a huge success." E. O'B.
Killiney, Co. Dublin.

can be better or more serviceable than genuine wax combs.

THE IMPOSSIBLE MADE POSSIBLE.

Now, to build up a nucleus when starting in early summer should be a very simple matter. There will be plenty of natural pollen and some honey to be gathered; but even then the same watchful, careful attention to the state of the brood nest is needed, and feeding must be constant until the nucleus has been extended to the capacity of a full stock.

But it will be admitted that the most difficult period of the whole season for building up a nucleus is in late autumn, after all normal honey-getting stocks have been already settled for winter.

At the Queenland Apiary, after having been reduced by the season's sales, we

"The Nucleus you supplied June 23 is now the strongest and busiest lot of bees I have, and never seem to trouble about weather conditions. I am speaking to friends daily of their doings." T. R.
Ormskirk, August 27.

start building up many lots of White Star bees, covering but one comb, without brood, and the queen often not mated until well into September.

What folly, say the experts, to attempt to make such lots into stocks fit to winter! I quite admit it would be futile to attempt such a feat with any but the world-renowned White Star bees and queens, which have been bred by selection for so many years. Having carried the process to a successful completion so many times, and year after year, I will show the reader how it is possible to overcome the impossible by using White Star queens and bees.

The beginning of September; barely

"The queen I had from you has done well—far better than my Italians, which gave no surplus. She has twelve 16 x 10 frames, twelve Standard, twelve other Standard, and twelve shallow frames. She laid up most of the 16 x 10 chamber, and most of the first Standard combs. The stored honey above now confines her to the 16 x 10 frames." Rev. R. D.

enough bees to cover a Standard comb; no brood except that the young queen has only just commenced to deposit eggs. One comb is added on either side, making three in all. Then at one side of these is placed a Simmins' Little Gem frame feeder, which holds about one quart of syrup, with a dead air space, or packing, below and at the two ends of the actual reservoir, thus acting as a warm dummy. On the other side is another (blank) warm, packed dummy. Both frame feeder and the dummy hang clear of the floor just as the frames do; for it is a great mistake to use any dummy fitting close to the floor.

(To be continued.)

Queenland List, 4d.; Revise only, 2d.; of S. SIMMINS, Queenland, Heathfield, Sussex.

Editorial

Legislation on Bee Diseases.

Have you sent that post card to your M.P. and to The Minister of Agriculture, Whitehall, London, S.W.1.?

The Master Candy Feeder.

In reference to our note on this feeder on page 630 of BRITISH BEE JOURNAL for December 30, Miss Chester-Master writes us regarding our criticism that the Porter escape may get blocked up by particles of candy, that during the two years she has been using the feeders the escape has never become blocked, nor have the bees had any difficulty in passing through it.

A Correction.

We regret that owing to an oversight on our part an error has occured in the advt. of Messrs. E. H. Taylor, Ltd. The amount of candy for 9s., post free, should have been 6 lbs., as in this week's advt., and not 7 lbs., as in the issues for January 6 and 13.

A Dorset Yarn.

Another delightful letter from a bee-keeper at Evesham (from which I give a few extracts). A photo of his apiary and fruit trees is enclosed with this yarn, and it may be worth reproduction in the JOURNAL. This gentleman, who was, like myself, a gardener in the employ of the wealthy, now farms on his own; you will see the fruit trees are in blossom. The number of hives and the fowls show that it is a prosperous holding. Evesham is a prosperous centre for fruit and vegetable growers, as the soil has a rich supply of potash naturally in the soil. How could the monks of old time, with their limited knowledge of chemistry, have found out these rich stores of plant food in the soil as they did? In so many places where they fixed their monasteries the land was very rich in plant food. They were the pioneers of husbandry in old times, and all writings of them have a special interest to the writer of these yarns.

You will notice this writer states he grows "gillies," or "wallflowers," for early pollen for bees. These plants always have a ready sale when grown well; it is a commercial crop as well as helping the bees—that is how the grower of market stuff gets the most out of the soil.

Mr. Woolley, who is a fruit-grower and bee-keeper, says:—

"I always look for your articles in the BRITISH BEE JOURNAL, and read them first

for the great good I receive from them. I spent fifteen years in a gentleman's garden, and when the master died I started here in Evesham as a fruit-grower. I have only five acres, nearly all fruit, mostly plums. Evesham is a noted centre for fruit-growing and market-gardening. There is a great demand for land with trees and crops, as a going concern, especially by discharged officers. I envy you the heather district for honey. I have had good results here every year since I started till this year. This season I had to feed twenty of my stocks, but I had the record crop of plums, and got a record price for them, so I don't grumble. Round here we grow dark-red 'gillies,' or wallflowers, under the trees, for market flowers in early spring, and that supplies early pollen for the bees. Thanking you again for all the good things I have received.—Yours faithfully, W. J. Woolley."

The photograph of his hives, with the fruit blossoms, seems most artistic and beautiful.—J. J. KETTLE.

[At our request Mr. Woolley has very kindly placed the illustration of his apiary at our disposal, and we have pleasure in giving it. As Mr. Kettle says, it is most artistic and beautiful, and what a wealth of forage for his bees! We wonder how much of his record crop of plums was due to their work. Being so close to the bloom they would be able to take advantage of every minute of favourable weather to visit the flowers. Mr. Woolley has kept bees for fifteen years, and has taken the BRITISH BEE JOURNAL for the same time without a break. We hope he will have another record season with his fruit, and also with his bees. If he does no doubt other bee-keepers will be likewise favoured.—EDS.]

Jottings from Huntingdonshire

Most of us rejoiced when January 6 passed. On the 7th the mornings begin to draw out—very slowly at first, it is true. The fact seems to carry us towards spring. The lengthening daylight in the evenings has not a heartening effect when one knows that day after day the sun rises at eight minutes past eight in the morning: one does not experience the exhilarating feeling until days lengthen at both ends. There is a saying hereabouts,

"When at half-past seven
The sun doth come
Queen bees for eggs demand some room."

If this be true, the queens in our hives begin laying somewhere about February 8, but most of us have seen young bees by that date. Doubtless, however, February is the month for brood-rearing, unless, forsooth, Jack Frost creeps o'er the land and holds the countryside in his grip at that time. We expect crocuses in February, and as far north as Westmorland crocuses have been seen on February 1, yet in parts of Worcestershire I have looked in vain for a crocus before March. If all goes well a month hence there will be a considerable amount of pabulum for the bees; coltsfoot will be blossoming; dandelions, blackthorn and daisies will also be inviting the bees, and the elm blossom will soon follow. How we bee-keepers look ahead in winter and behind in autumn! We live on experience and hope. If any reader has a row or two of autumn-sown turnips he will be well repaid if he allow them to flower. The bees will see to it that he has plenty of good seed. I had a double row of these vegetables flowering last March, and I allowed them to flower for the bees' sake, intending to grub them up as soon as the blowing was over; judge of my surprise when a gardener came and made me an offer for the prospective seed. "I always look out for turnip seed which has matured near some bee hives," said he, and went on to say that such seed was worth as much again as seed which was the result of wind fertilisation. Wonderful creatures bees. They do nothing but what is good, excepting perhaps that little habit they have of puncturing one's skin occasionally. This we cannot call an evil. What honey would some out apiaries yield up to their owners had the bees no sting? Naughty boys and girls would be lifting roofs and quilts and helping themselves from the delectable tuck boxes.

To go back to blossom. I notice the box trees have a wealth of buds, and how the bees love a box tree in bloom! The honey, too, is good, and the pollen is apparently of the best. The flowering currants again are promising well, and some borage seed scattered along the road side has germinated, and the little plants will soon begin to grow apace and yield their choicest of blue flowers—colour so pleasing to bees—full of nectar. I have often wondered whether if one sowed acres of borage it would be possible to get borage honey. Judging from what our heather-honey experts say, honey containing 100 per cent. of nectar gathered from one species of flower is unobtainable. True borage honey cannot therefore be got, but I feel confident that plenty of borage will help exhibitors to secure prizes at the show bench.—E. F. HEMMING, Steeple Gidding.

Production of Heather Honey.

Having been a bee-keeper, and also a reader of your valuable BEE JOURNAL since 1898, I would like very much to give you a few lines on production of heather honey, as heather honey was always what I aimed at in the keeping of my bees. I have also had great pleasure in reading your JOURNAL; some of its contents to profit, and others not to so much. One thing I must say I looked forward to was the paper by Mr. Price on the "Production of Heather Honey."

When I started bee-keeping it was with a stray swarm, and I have had about 18 years' experience of going to the moors. The harvest of heather honey in the first 12 years was very indifferent. Some seasons the hives returned lighter than they were when I took them away, and other seasons I got a good surplus. In the first 12 years the mode of transport was four miles by road in a spring cart, after which a journey of about thirty miles on rail. Before the hives could be unloaded, placed on their stands, and the bees let out it was generally about 11 a.m. This hour I always thought was too late, as on going back to see them two or three weeks later I found about a pint of dead bees lying on the ground in front of each hive, which showed there was something wrong. Other people's bees that travelled on the same train had the same quantity of dead bees. Well, later I had a change to another moor, where I was more successful in getting heather honey. The mode of transport this time was 22 miles by road on a four-wheeled lorry. I always had eleven hives, which was a good load for the horse, especially as the latter part of the journey (about 1½ miles) was through fields, where we set them down beside the heather.

I have no doubt there is a right and a wrong way in preparing the hives for the moors, but each bee-keeper should study that for him or herself. My method of preparing started when I had my first swarm. Sometimes my first swarm came off the last week of May, others followed in June; but I always preferred them in June. The same evening that the swarm came off I took out five frames of comb, and if they had sealed queen cells I made two nuclei—one of two combs and one of three combs. After removing all queen cells from the other combs in the parent hive and replacing the five taken away with five full sheets of foundation, I returned the swarm. In this way I was able to secure at least two racks of sections of flower honey, also boxes which held from 5 to 10 lbs. each. About ten days before going to the moors I removed the old queen and united one of the nuclei to the parent hive, which gave me a very strong stock for the heather. Two nights before departure to the heather all sections and boxes were extracted and replaced on the hives again without a queen excluder. I generally put two racks of sections and two sets of boxes on each hive. Of course, a very strong stock got three racks of sections. Having these crammed full of bees, and a prolific young queen, I never failed to secure a good supply of heather honey.

Ventilation is one of the things I consider essential for bees when travelling. [It is the most essential thing.—EDS.] My hives are all ventilated at the bottom, and have a cheese cloth over the sections and boxes. The entrances are all wide open, and a good current of air gets in. I remove all quilts and open wide the ventilator, also entrance, about 9 a.m. on the morning of the departure to the heather. This helps to cool the hives a bit before night, and the bees do not get heated in the same way on the journey.

Packing the hives on the lorry is another thing which must be considered. I prefer the hives with joist legs, and put four wisps of hay underneath each hive, then, with a good rope round them all, one can have an easy mind that nothing will happen on the journey. I generally left home about 10 p.m., and travelled at the rate of about three miles per hour. When about half-way a halt was made for about three-quarters of an hour, and man and beast had something to eat. Arriving at the heather about 6 a.m., gantries were made level and hives set upon them. Quilts were all replaced on the hives after that, then we had breakfast, and by that time the bees were quite settled down and ready for letting out.—WILLIAM S. WATSON, Torrance-of-Campsie, Stirlingshire.

Jottings.

Training Prospective Bee-keeping Parsons (page 610).—The ideal of this proposal may be practical and necessitous, but surely more economical ways and means could be found to reach the desired object than this, and were it not that Mr. Tickner-Edwards included other pupils in his scheme, I think the idea would be ridiculous.

I cannot get the weekly expenditure of a lecturer and van lower than £20, to this must be added the expense of demonstration outfit and stock.

This might be raised by special effort, *perhaps*. If so, why not pay direct to the anxious learner, or, better, provide stock to commence, for those actu-

ally expressing such a wish, most villages have someone capable of giving instruction in management; books are numerous, cheap and simple to understand to an educated person; also a subscription to the County Association would ensure a special consideration, and most of these are already doing this work in some form or other.

No tax on future profits would then be due. It might prove awkward if he failed to obtain the mastership or the nonconformist vied for first place. Thank goodness the articles of faith, "smoker and veil," are fairly universal and common ground, while the mere fact of proffered help and the contagious spirit of conviviality contracted from the bees ought to do much to wipe out long periods of sect differences and man-made misunderstandings. May the bishops give this a "lead" as well as consideration and a blessing.

The Dawn, or a New Era of Knowledge (page 616).—Dr. Abushâdy's article and title seem somewhat to discredit or rather bedim the long stream of daylight that has been steadily growing by the pen; and efforts in the long day, as represented by the list of, shall we say, bee astrologers mentioned on page 555 by the Rev. Hemming, and this in no way represents a tithe of the students of the bee when it was shrouded in mystery and the hive a dome of darkness. This, of course, was never intended, but I thought I would like to extract tribute, if this is necessary, for the many departed who have, by dissections and divisions of our bee into named fragments, with all the beautiful books compiled, done no small part in making these conclusions possible.

I fail to see the difference between commemorative, constructive, or inquisitive interest, provided it is prompted by a real search for knowledge. Residential convenience and the peculiarity of the craft makes this most accessible through the "open column." The mere, but valuable privilege of being able to attend such a discourse surely carries no preponderance of moral rights for discussion when once a report has been issued.

Contributors (page 618).—When one takes part with the sole idea of doing something to help, it is difficult to take a hand in this. If we all leave to the Editors what shall and what shall not appear it is quite evident he is in the position to judge what is best. This summary from Mr. Mace should go far to smooth the rough places and help us all to look for the best and take it however small and there is always the invitation to dish up something better.—A. H. Hamshar.

Safe Wintering.—I.

By D. M. Macdonald.

Perhaps no other subject in the whole field of apicultural literature has had more space devoted to it in bee newspapers than that of safe wintering of bees. It is of perennial interest, for as sure as winter follows autumn the old problem becomes a new one. Old bee-keepers once more dip deeper into the mysteries they have time and again tried to elucidate, men of some years' standing carefully consider and reconsider all the points which have already engaged their attention, so as to make dark places light, and novices eagerly seek counsel from the writings of men of experience. Then, yearly, a new army of beginners seek light and leading to save them from the pitfalls of inexperience. Consequently, very many readers anxiously scan the bee Press for practical hints, which, properly applied, will guide their erring steps. Experience should guide even fools, then how much more will it serve to instruct those intelligent men and women, who, eager for light, start in the pleasing paths of apiculture. The very fact that they embark voluntarily on this pleasing pastime shows that they are wise in their generation. That does not imply that everyone is a Solomon, but even that safe guide, so well worth following, advises even the wise above all their getting to get *understanding*.

That will be the end and aim of a short series of articles on this interesting problem of safe wintering. The main consideration is to get *bees*. That trite old saying, that the best packing for bees is more bees is quite true. But there is even a deeper consideration underlying the surface, because although it is true it is not the whole truth. Get more bees, but *get better bees!* Any old stagers, bees who have borne the burden and heat of the day, who have toiled and moiled even during the nerve-racking and muscle-testing labours of a September heather-honey flow are *old* and worn out before the end of that month. These are not the bees to winter pack, however big the battalions have been during the flow, and even when it is over. They are toilworn and weary, aged from hard work, and die in their thousands during the early days of October, while many more thousands are fast wearing to a decrepit condition. Few can survive the first rigours of early winter, and fewer still can be relied on to keep up the strength of the colony until the dawn of a new year. None of them, it is almost safe to say, can be trusted to aid in rejuvenating the hive population when active breeding starts, in the South

in early February, in the North perhaps not until early March. Trusting in them is like trusting in a broken reed.

I like breeding to go on right through September and early October. Later, I have some doubts. Young bees bred into November have a tendency to turn soft and anæmic. They want ballast, stability, vim, energy. They may be classed as lackadaisical. They may live until the first flights are over, or, in early districts, even until the early flowers are with us, but I would class them as a short-lived race. They are lacking in vitality, and a bee of energy would beat any three, or even half-a-dozen, of them. The late-bred bee is born out of season. It requires several cleansing flights to energise its system, and so make it a good winterer, and a bee to toil and "spin" during late spring and early summer.

It will thus be seen that there is force in the words I have used above—get more bees, but get better bees! Of all the main factors regulating safe wintering I would set this question of securing the best bee as the one which I would consider of primary importance. Most others are of subsidiary value: or if they are not in themselves all that, they are so much under the order and guidance of the bee master that he can regulate them at his will and pleasure, so much so that he can practically say to the denizens of the hive, "Do this, or that," and forthwith they proceed to obey his will

A small bevy of very important factors cluster round the question of *stores*. Except ye eat, neither shall ye live. Right through the winter bees are almost constantly consuming stores, even in almost zero weather the winter cluster is an active body of living and moving bees. There is no question of somnambulism in that seething mass of many thousands. There is not even an approach to hybernation. So important indeed is the question of ample and easily approached food supplies, that should a section of the cluster be cut off every bee may die when separated from the main body and severed from honey. What coals are to an engine, nectar is to the bees of the winter cluster. The honey is life to them, and to live they must eat. It keeps up the energy and vitality of every living bee. Moreover, by partaking of it steadily, even in zero weather, they are enabled to maintain the heat of the hive to such a degree of temperature that, in spite of an even Arctic cold outside, the condition of the hive interior makes life worth living not only to each individual bee but also to the commonwealth as a whole.

(To be continued.)

Long Sing Kettle.

Year dawn,
Early morn,
Sweet sing Kettle!

Autumn brown,
To town,
Wendeth Kettle!

Bees wing,
Honey bring,
Sweet sing Kettle!

Honey sweet,
Packed neat,
Done by Kettle!

Spring come,
Bee hum,
Loud sing Kettle!

Much honey,
Bring money,
Loud sing Kettle!

Grass grow,
Nectar flow,
Soft sing Kettle!

Labour fun,
Money won,
Low sing Kettle!

Summer sun,
Honey run,
Loud sing Kettle!

Life's spring,
Hope bring,
Sweet sing Kettle!

Flowers bright,
Great delight,
Loud sing Kettle!

Life's noon,
Labour soon,
Joy bring Kettle!

Supers fill,
Bees will,
Loud sing Kettle!

Autumn rest,
His best,
Done by Kettle!

Much honey,
Bring money,
Louder sing Kettle!

Winter snow!
Wind blow!
Still sing Kettle!

Come rasp,
Come wasp,
Still sing Kettle!

Dorset yarn,
Bring balm,
Long sing Kettle!

NOVICE.

Cotswold Notes.

It is always a good plan, when walking round the beehives once a fortnight, to clear the entrances with a crooked nail or bent skewer, because the dead bees—and there are always some which die of old age during the winter—are generally dragged to the entrance, where they accumulate in chilly weather, and may even block it up altogether.

I was taken to task not long ago for suggesting newspaper or brown paper over the hive quilts as an aid to winter warmth on the ground of it being non-porous and therefore unhealthy. As far as *our* bees are concerned it has never proved detrimental. Besides, paper is an excellent safeguard against wet leaking in.

Some of our roofs are flat, and covered with iron, painted white, but others have ridge roofs, and in some cases the rain penetrates in some singular manner in spite of the painting. But those thick papers slightly raised in the centre will run the water off to the sides, so that it escapes between the hive side and the lift. This is, therefore, an insurance policy against damp quilts in winter.

If a faulty roof is noticed, a fresh one from the reserve of empty hives is usually

put on in its place. Bees appear to stand any amount of sharp frost outside, provided they are kept perfectly warm and dry.—A. H. BOWEN, Cotswold Apiaries, Cheltenham.

December 7, 1920.

The Bee Diseases Bill: An Outline of Procedure.

From the Ministry of Agriculture's Weekly Service.

The Bill introduced into the House of Lords in the closing days of the last Session, then printed and to be brought forward again in the next Session of Parliament, is designed to give the Ministry of Agriculture and Fisheries power to make Orders for the regulation of the importation of bees and bee appliances, and for the prevention of the spread of bee diseases. It also proposes, subject to the approval of the Ministry, to give Local Authorities power to appoint an Inspector to carry out any business under the Bill which may be passed on to them. It is expected, however, that it will not be found necessary to refer business to Local Authorities and that the work under the Act will be carried out by the Ministry.

Briefly, the reason for the measure is that there is a considerable amount of disease among the apiaries in the country; that this can and should be controlled and, where possible, eradicated, the industry being an important food-producing one, and capable of very considerable expansion.

In conformity with procedure adopted in regard to all other horticultural legislation and administration, the bee-keeping industry will be consulted on every occasion before important action is taken. The industry therefore need be on no account apprehensive as to the effect of the Bill, as their representatives will be asked to advise and to make suggestions freely before any administrative action is taken.

A Bee-keepers' Sub-Committee is to be attached to the general Horticultural Advisory Council, and the British Bee-keepers' Association, appliance manufacturers, principal apiarists, scientists and others are being asked to nominate representatives to serve upon it.

Many bee-keepers will remember that in February last the question of the need for such legislation as is now proposed was put to a Conference of representative bee-keepers, who decided in favour of it with one dissentient only, the voting being recorded as 99—1. A few years ago a post-card vote taken of all bee-keepers in Cumberland and Westmorland showed that out of 800 persons voting 796 were in favour of legislation. It seems, therefore, that in putting forward this Bill the Ministry has behind it a very strong weight of opinion in the industry.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

The Prices of Italian Queens.

[10370] I beg to be permitted to answer correspondence 10356—"Native *v.* Foreign Bees." I do not attack the correspondent's opinion when (speaking about Italian queens imported from Italy) he says he has never had "such a thing" having bred "pure" Italian queens himself and having bought Italian queens from other English bee-breeders and from bee-breeders in the United States of America. Perhaps, Italian queens from China and Japan are still better. It is very remarkable how much the correspondent emphasises his having bought Italian queens anywhere but in Italy. In my opinion, that shows more his antipathy for the Italian breeders than a sound argumentation from a technical view-point. I may leave that matter alone. There are good judges in Great Britain. What I cannot pass under silence is the correspondent's criticism about the prices of Italian queens from Italy. Let me consider the question on two distinct points:—

1st. Can British bee-keepers buy Italian queens from Italy *to their advantage* at the actual prices?

I think so. "Give me a good queen, and I will show you a honey crop, if flowers do not fail to secrete nectar," said the illustrious G. Doolittle. The pre-war May price of an Italian queen was 6s., and the price of British honey is more than doubled.

2nd. Is the actual gain of the Italian breeders too high?

Let me remark, first, that, in reading correspondence 10356 it seems that, in the judgment of its author, there is not a greater luck for a country than having a lowered currency.

Let me show some sad effects of that

curious privilege. It is notorious that we have not in Italy a single mine of coal. Well, we pay now for British coal twenty-four times more than before the war. One "quintale" (nearly 2 cwt.) of British coal that cost before the war 3 lire and 60 centimes, costs now 90 lire, with what advantage for our industries and our railways anybody may easily imagine. A barrel of Yarmouth herrings that cost 27 lire before the war costs now 360 lire. The same quality and quantity of British woollen cloth that cost 20 lire now costs 160 lire. Our honey with which we feed *largely* our queen-rearing apiaries costs twelve times more than before the war, etc. All that clearly shows that not only our currency is four times under the normal worth, but also that all things, and *especially the imported goods*, are dearer *far beyond the rate of the exchange*. With a British pound we buy in Italy six times less of British coal than we could buy before the war, and, consequently, twenty-four times less we can buy with our currency.

So one may easily imagine the exaggerated prosperity the Italian breeders are in, selling their May queens at 12s. instead of 6s., as they did before the war.

It is notorious that the principal cause of the financial difficulties of Italy is the great deficiency of the exportations in comparison with the importations, the high rate of the exchange being thoroughly at our loss. And while we patiently import enormous quantities of goods at *twenty-four times* the pre-war price, it is painful enough to see the exportation of such a trifle as some thousand queens at *double price*, grudged and criticised. Great as may be the correspondent's antipathy against us, he cannot wish that we reduce still more our most reduced exportation and disappear as a people.

Having been severely reprehended, it was a duty to reply. As for me, I am so much obliged to my many British customers for their great kindness, so much surpassing my merit that had the correspondent attacked us a hundred times more eagerly that would not have diminished a jot my gratitude.—ENRICO PENNA.

Appliance Manufacturers and Legislation for Bee Diseases.

[10371] We trust that your position in the bee world is sufficiently established to dispense with the necessity of replying in the Press to any individual who, for reasons best known to himself, chooses to launch an attack on the personnel, good faith, and business methods of either our own firm or of bee appliance manufacturers in general. The letter which you saw fit to publish, however, in your last issue contains so many gross misrepresentations of fact that we cannot altogether ignore it.

Your correspondent opens his attack by saying: "I have before me a letter sent out by E. H. Taylor, Ltd., calling a *meeting for the purpose of organising opposition to legislation for bee diseases.*" In the face of such a mis-statement we cannot but do otherwise than request you to print the letter in full. It ran as follows :—

PROPOSED BEE DISEASES BILL.

"DEAR SIR,—I write to ask if you would be so very good as to attend a small informal conference on the above subject at the Charing Cross Hotel on Wednesday, December 8, at 11 a.m.

"My firm has been approached from many quarters with a view to organising opposition to the above measure, and we may say that on the information now before us we ourselves view the position with the very greatest concern. Before representing these objections to the Government, however, or supporting any steps to bring to the notice of Parliament or of the Press the opposition which is alleged to be entertained by the large majority of enlightened bee-keepers to the Bill in its present form, we desire to assure ourselves beyond all possible doubt that these objections are well founded, and that such action would be to the benefit of bee-keeping in this country. For although the financial commitments of this Company in bees and bee appliances are, so far as we know, the largest in Europe, yet our ultimate interests coincide and must always coincide with those of every individual bee-keeper, and with the progress of the industry as a whole.

"We are further of opinion that we should, in such a case, seek the advice of those whose education and training enable them to take a wide view of an industry concerning which such widely divergent views appear to obtain on almost every important point amongst the general bee-keeping community; and more especially do we feel that we should be guided by those whose experience of pure science has enabled them to realise the immensity of the existing lack of knowledge and data, and the almost entire absence of the application of elementary scientific principles to the study and control of problems of unexampled physiological and biological complexity.

"We therefore ask if you would be good enough to be present to give us the benefit of your counsel in order that we may thus assure ourselves that the proposed opposition is devoid of personal interests or bias, and is supported by en-

lightened and progressive opinion. We are the more anxious on this point in view of the contradictory accounts of a past conference which was held to discuss the Bill. It is further hoped that, if there is found to be ground for criticism of legislation in the proposed form, such criticism may be not merely destructive, but that those attending will consider if they are any constructive modifications or alternatives which could profitably be submitted to the Government.

"The matter is clearly of such very grave importance to the whole future of the industry that we earnestly beg that you will do your very utmost to be present.—I am, Sir, yours faithfully,

"E. H. TAYLOR, LTD.
"(Sd.) W. L. LORDAN,
"Managing Director."

The Development Commission, University of Oxford, University of Cambridge, and University of Aberdeen, in addition to private individuals, were invited to attend what Mr. G. James Flashman is pleased to refer to as a "secret conclave." Further, through ignorance or design, he omits to mention that a senior official from the Ministry of Agriculture was present.

Your correspondent states: "It is also a new experience for a firm of appliance manufacturers to try and interfere with the politics of bee-keeping which so vitally affect their customers." We are quite willing to believe in Mr. G. James Flashman's lack of experience, more especially so after a perusal of his letter, but does he seriously suggest that a leading firm in any industry should neglect matters which, according to his own statement, vitally affect their customers? He apparently imagines that the responsibilities of a business house are ended when goods have been supplied and payment received. This is not the view which we take. We consider that our own prosperity and success is dependent on the prosperity and success of the industry as a whole, and ultimately of every bee-keeper in the country, whether large or small; we shall therefore continue to strive to serve the best interests of those who support us.

It appears almost too obvious to mention that were we studying our own pockets and immediate cash returns, as your correspondent suggests, our most prudent course would be to take no part in any contentious question, but "to run with the hare and hunt with the hounds," and so secure the continued patronage of all our customers whatever their private views may be. We prefer, however, to strive rather for permanent welfare of the industry than for immediate gain. We thought it advisable, therefore, to discuss the matter, and we leave it to others to decide if we were wrong in assuming that Mr. G. James Flashman's attainments and knowledge were not such as to warrant us in seeking his advice. We know of no law or rule in the bee-keeping industry, or in any other, which prevents those interested from discussing with the Government Department concerned and with leading scientific and practical colleagues any new steps that may be contemplated.

Finally, we may as well mention that neither we ourselves, nor, so far as we could gather, any of the gentlemen who attended the conference with us, are opposed to the principle of legislation. We consider that the most important question at the moment is the eradication of disease, and that no steps should be neglected to attain this end, however great the inconvenience or immediate loss may be. But we do consider that legislation must be accompanied by full protection for the rights of individuals and that proper safeguards must be devised to protect bee-keepers both large and small from ignorant or arbitrary action by subordinate officials who may be appointed to administer the law. It is in the absence of such safeguards that lies the danger of the present situation.—Yours faithfully,

E. H. TAYLOR, LTD.
W. L. LORDAN, Managing Director.

Heather Honey.

[10372] I have seen in THE BRITISH BEE JOURNAL some views on heather honey, and in the last JOURNAL I had—for it arrives nearly a week late here—December 23 issue—I notice, pp. 621 and 622, two interesting letters. "An Able Bee" says there is no perfectly pure heather honey! Well, I do not agree. I have seen sections of perfectly pure heather honey. It was very dark, very thick, with a remarkably white comb, the flavour was excellent. Now as to it candying, I never remember to have seen pure heather honey granulate. What I get here is *mainly* heather, and it *does* granulate solid. The heather honey I got in a part of County Wicklow became exceedingly bitter, and also thinned in the comb when kept over winter. We eat it when bitter, but many people would not like it.

Now as to extracting, Mr. Editor, you wisely remark it "cannot be extracted . . . . in the usual manner." Quite true. It never can be extracted quite all, but by leaving it in a very warm room for a day and still keeping the room hot as possible I have extracted nearly all of it, and what is left the bees

soon clear out. Now I see in the *American Bee Journal* for December the Editor's answer: "Comb honey rarely granulates, unless it is one of the thick grades like heather."

As to preparing bees for the heather crop, it is the mainstay here some years, but was almost nil 1920. I find my bees gather it if they only can get fine weather, but I build them up for extracting to four or more boxes. I generally confine the queen to the lowest box about end of July. The heather comes in during August and September, so the queens often lay later on, but I am of opinion that native bees are best for heather work, owing to their strength and hardihood. If one has enough bees, they gather honey whenever and wherever it is available. Here, my bees gathered a lot of their own stores in October, 1920, after I took off the honey, for I did get a fair quantity for such a poor season. Yes, and, further, I fed some young stocks, and some Italians later in October, and they took down sugar syrup rapidly and sealed it. They refused to take it down in September, as it was wet and cold.

I should like to say that friend Kettle's yarns are most interesting; his observations are direct from Nature, just the most useful we can get; and I like to hear about fruit trees, etc. I would remind critics no one science is complete in itself. Plants producing nectar and their cultivation are as much a part of bee culture as hives, more so perhaps. One great bee master implied that the make of hive had no effect on the production of honey. I beg to differ, however.—R. Doupe (Rev.), Co. Galway.

Native v. Foreign Bees.

[10373] May I be allowed the courtesy of your columns to comment on letter 10,356?

Although I do not know him personally, I respect Mr. Manley's opinions on matters apistical, even if I do not always share them. On the question at issue everyone will form his own opinion, and it is not my desire to try to influence the decision (quite apart from the question of etiquette, for I am, and so also is Mr. Manley, interested in the sale of queens), but I should like to correct two erroneous arguments.

(1) It is commonly stated that Italian bees, indigenous to a sub-tropical country, are not good wintering bees, and lack stamina.

(2) The abnormally low sterling value of Italian currency ought to make Italian queens procurable at a correspondingly low price.

In reply to (1), I would say that I have lived long enough in Italy to learn to speak Italian fluently, and I can assure your readers that from the northern boundary down to Florence the climate is such as to test the wintering qualities of bees much more severely than our own climate can. In the north, where one of the Italian queen breeders is situated, the winters compare in severity with those of the Northern States of U.S.A., but they are not quite so long. In any case, the cold is much more intense than anything we experience. Farther south, in the Bolognese, the winters are sometimes as cold as they are in the north, and sometimes as wet, damp, and miserable as ours are, and the two large exporting queen breeders established there can testify to this.

Then, again, if Italian bees are "soft," why did the Americans find it possible and advantageous to displace the black bee almost completely from their vast continent? It is not a question of a special strain ("special strain" is only an advertising subterfuge). They are Italians, pure and simple, and kept vigorous and pure by importing breeding queens from Italy.

In regard to (2), I would say this is a common and excusable error. It must not be forgotten that the rate of exchange is a very good measure of the cost of living. In this country the general rise in wages since 1914 has been about 150 per cent.: that is, the ratio is as 1 to 2½. In Italy, on the other hand, the increase has been between 300 and 400 per cent., that is, 1 : 4, or 1 : 5, depending on the kind of labour. With the lira at 100 to the pound (a ratio of 1 : 4) we have a figure comparable with the cost of living in Italy.

I do not wish to infer that the Italian queen breeders are not making any more profit on the queens they sell in Britain than they did in 1914. They ought to be making more, for they have to live and support themselves just as other men do [illegible] have to work, but I only wish to show that their business must not be judged by a comparison of the exchange on London.

I have the pre-war price the Italian queen breeders charged in Italy for their queens, and I could easily find out the present-day price, but I should be surprised if I found that the difference did not bear a very close ratio to the difference between the prices charged here, then and now, taking into account the depreciation of the currency.—H. M. Stich, Paisley.

December 31, 1920.

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One Penny per Word.

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FOR SALE, three Stocks Italians in well-made hives, fine condition, guaranteed healthy, second year stocks, £4 each with hive. Purchaser to remove.—COLSON, Montford, Abbots Road, Abbots Langley, Herts. l.45

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EXTENSIVE BEE-KEEPER wishes to get into touch with other ex-Service bee-keeping officers and men. Will those replying please give regiment or ship, and state if disabled?—Box 2, B.B.J. Office, 23, Bedford Street, London, W.C.2. l.32

FINE EXTRACTED HONEY, 56 lbs., in two 14 and one 28-lb. tins, 100 shillings the lot, free on rail, carriage forward.—T. COOPER, Couchmore Farm, Esher. l.28

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25 PURE ITALIAN STOCKS, £5 5s. each; 15 Italian Hybrids, £5; 20 Blacks, Italian strain, £4 10s.; travelling boxes 10s. extra, returnable. Guaranteed healthy on arrival. Great satisfaction given to all customers last year.—J. YOUNGER, 6, Maid's Causeway, Cambridge. r.l.26

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SURPLUS Hives and Appliances for Sale, good condition, cheap.—PEARSON & GALE, Marlborough. l.11

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INCOMPARABLE CREAMY CANDY, once purchased always used, 6 lbs. 8s. 6d.—BOWEN, Commercial Queen Breeder, Cheltenham. l.47

"AMERICAN BEE JOURNAL" for December. This includes articles on "Economic Aspects of Apiculture," "Preparing Bees for Shipment," "The Honey Bee in Russia," and many interesting notes and queries. 10s. per annum, post free.—Agent, E. J. BURTT, Stroud Road, Gloucester. l.48

WINTER WORK.—Queen Cages, travelling and introducing, Benton pattern, 5s. 6d. dozen, post free. Send 3d. for sample.—BROOKS, The Apiary, Marle Hill Court Road, Cheltenham. l.50

BOOK NOW.—Pure Italian. Early Swarms, May and June, £2, plus carriage; 3-frame Nuclei, May and June, £2 10s.; a few Stocks, 8 frames, £5. Guaranteed free of disease. Cash with order. —N. WILKINSON, Farnham, Saxmundham, Suffolk. r.l.37

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STRICTLY BUSINESS.—Flavine Candy, 6 lbs., 9s.; Floorboard Feeders, 10s.; Sprayers, 6s.; post paid. Italian Queens and Bee Stocks. Send for price lists. "Let the Bees Tell You," 3rd edition, 2s. 6d. paper, 4s. 6d. cloth, post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. l.33

DON'T BUY BEES until you have seen our prices and guarantee. You risk nothing, as we return money in full if bees fail to give complete satisfaction. Illustrated Catalogue free on application.—PEARSON & GALE, Marlborough. l.17

SECRETARIES of Bee Associations requiring Italian Queens at wholesale prices are requested to write to Box 3, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2, when they will hear something to their advantage. r.l.39

LEE'S UTILITY BEES FOR SURPLUS HONEY. —Order now to ensure early delivery.—LEE, "Little Bowden Apiary," Burgess Hill, Sussex. r.l.10

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A WELL-ESTABLISHED FIRM wishes to hear of bee-keepers who would guarantee to supply them with Nuclei May-June next.—Box 107, B.B.J Office, 23, Bedford Street, Strand, W.C.2. r.j.42

400 USED Commercial Frames in flat, sound condition, guaranteed healthy; 25 for 5s., postage extra.—PEARSON & GALE, Marlborough. l.12

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A client, after using "White Star" (30 years' line-bred) Pedigree Queens, says they are going to make his fortune! Another, a lady, who purchased a "White Star" nucleus, cleared over £40 in actual cash the second year from the original investment (800 per cent.). Full particulars in the Queenland List.

Safe arrival of queens and nuclei guaranteed, and carriage paid. Should any queen be lost from a nucleus within three weeks from delivery, we guarantee to send another. Every queen is warranted for six months trial, and 1921 reared.

HUGE SUCCESS IN IRELAND.

"I shall come to you again for bees next year. The Nucleus you sent me was a huge success." E. O'B.

Killiney, Co. Dublin.

"WHITE STARS" ON TOP: IMPORTED ITALIANS A BLANK.

"The 'White Star' queen has done well. She has twelve 16 x 10 frames and twenty-four Standard frames. At present she is keeping to the 16 x 10 frames, the next (Standard chamber) is filling with honey, and the third nearly all sealed. My imported Italians have done nothing." Rev. R. D.

Maam, Co. Galway, 1920.

GOING AHEAD.

"The Nucleus you sent me is a very fine lot. Already they are on seven combs." (July 3.)

Cedar Road, London. W. C.

SPLENDID LOT; ONLY ONE DEAD.

"The Nucleus is a splendid lot, and I am delighted with them. I only found one dead bee." J. R.

Aintree, Liverpool.

SWARMING CONDITION—EARLY APRIL.

"When doing expert work for the Cheshire Association I saw a 'W.S.' stock—such a lot as I never saw before. It was in early April, 1919, and they were at swarming point—absolutely bunged up with bees and brood."

Bowdon. H. B.

FIVE WEEKS—A STRONG STOCK.

"The 'W.S.' Nucleus you sent me five weeks ago is going strong, and, in spite of inclement weather, and little attention through illness, it is now a good strong stock."

Teddington, August 1, 1920. J. L. N.

"W.S." STAND FAST; DUTCH, ITALIANS, NATIVES, GO UNDER.

"I am very pleased with the 'White Star' Nucleus I had last year. It has wintered splendidly, and going ahead very fast. I have lost eight other stocks this spring—Dutch, Italians, and Blacks." C. L. W.

Knutsford.

HOW TO FIGHT "I.O.W." DISEASE.

"The 'W.S.' queen sent me in July I gave to a stock that had dwindled to three frames of bees. In a month she had banished all traces of 'I.O.W.,' and filled eight Standard frames solid with sealed brood. I have put them into winter quarters—ten frames packed with bees; a long way my best stock."

Sheffield. G. B.

APRIL 12: READY FOR SUPERING.

"The 'W.S.' queen I got from you last year has done splendidly. She has wintered well, and is ahead of any I have got, or any I have seen around here. I am extra well pleased with her." J. S.

Tarbolton Station, Ayrshire.

"W.S." NUCLEUS BUSIEST AND STRONGEST.

"The Nucleus you sent me June 23 is the strongest and busiest lot of bees I have, and never think of weather conditions. I am speaking to friends daily about them."

Ormskirk, August 27, 1920. T. R.

ONLY RESISTANT BEES.

"Disease has emptied this district of native bees. I turn to you as the only source of resistant bees, so far as my experience goes. In my home district also disease has been rife, and none but stocks with 'W.S.' blood survive in my apiary there." H. E. L. V.

Rhyl, N. Wales.

OUT OF THIRTY STOCKS—THREE "W.S." ALONE SURVIVE.

"It may interest you to know that out of thirty stocks in the spring of 1916 only *three* have survived the 'I.O.W.' disease—the only stocks I had of the 'W.S.' blood."

W. V. S.

Penrith, Cumb., September 5, 1917.

A CANDID CONFESSION—ANOTHER OF THOSE MYSTERIES.

"I must make a confession. I put the 'White Star' queen in a diseased 'I.O.W.' hive, treating it with Izal, as you advise, just to see whether you were right. Well! you ought to see them; they are almost the strongest hive I have now. It was almost cruelty to put her in such an attenuated hive. She is a marvel." E. W. B.

Winchcombe.

JUST WALKED OVER DISEASE.

"I introduced the 'W.S.' queen in June last (1914), and, although the stock was badly smitten with foul brood, they came on all right. Now during this last winter I have lost all my hives (nine), except this one, with 'Isle of Wight' disease, and they are working well, with no sign of either disease."

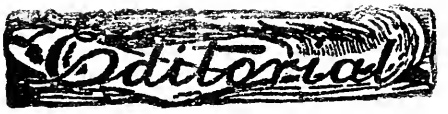
April 7, 1915. H. A. N.

EXCEEDS 500 PER CENT. INTEREST.

"We have now twelve stocks to winter, besides selling one, out of the two three-frame Nuclei supplied June 20 last year." (August 15, 1917.) Miss B. D.

Quainton, Bucks.

"W.S." Stocks at Nucleus Rate; Nuclei Greatly Reduced for 1921. S. Simmins, Queenland, Heathfield, Sussex.



Legislation on Bee Diseases.

We make no apology for again urging all those who wish for legislation to send a postcard to their local M.P. and the Minister of Agriculture, Whitehall, London, S.W.1. Further, we would urge them to send a letter to the local Press in order to bring the matter before those who do not take a bee paper. Do not put the matter off thinking there is still time or that the opposition is negligible. Those opposed to legislation are working against it in various ways. The hole-and-corner meeting at the Charing Cross Hotel is an example of their methods. Another artful dodge is to try and get bee-keepers to send cards in opposition to the Bill by saying "We are not opposed to legislation, but only to the present Bill." Some we know are quite honest in this, but make no mistake that others are only using it as camouflage to not only attempt to kill the Bill, *but to kill legislation for bee diseases as well*, and will not stick at any subterfuge, back stair methods, or travesty of the facts in order to achieve their ends. Those in favour of legislation have fought for it fair and square. A good example of the difference in methods may be seen by comparing the two meetings, one held almost a year ago, February 6, 1920, and the one held at the Charing Cross Hotel on December 8 last. A full report of the former with the names of those present was given in the B.B.J., but has anyone heard anything at all of what transpired at the latter or who were present? We are quite aware the present Bill does not suit everyone; it would be impossible to draft one that did. There are alterations or additions that *we* would like to see, and it is quite possible —even probable—that amendments may be introduced before it becomes law.

We have always given every publicity to the views of those opposed to legislation, *a publicity they could not otherwise have obtained*. We have even given them preference over some of those who have written in favour, and been much blamed by our friends for doing so.

A favourite argument of the "Antis" is that the Bill is a means of obtaining posts as inspectors for a favoured few, and will leave bee-keepers at the mercy of a Government department. A reference to the extract from the Ministry of Agriculture's weekly service on page 22 last week should dispel any fears on that point. The principle of having an advisory committee is not a new one to be applied to bee-keeping, but has been in operation in reference to market gardening and fruit growing for some time. It has proved so successful in that direction that it is to be adopted for bee-keeping. Once again, do not be misled by the catch phrase, "We are only opposed to the present Bill, not to legislation," for, in the majority of cases, it is simply a trick to try and scotch legislation in any form.

A Dorset Yarn.

In one of Thomas Hardy's Wessex novels there is an interesting chapter on the honey harvest, where sulphurous fumes were used to destroy the bees. "I think it is rather a cruel thing to do," said the heroine of the story. The father replied, "If you suffocate them this way, they only die once." "To take honey so that the bees are neither starved nor murdered is a puzzling matter," the daughter remarked. "I should like never to take it from them," another character in the story observed. "But 'tis the money—for without money man is a shadder."

Bees are kept by most people (at any rate to begin with) for what profit they will add to the annual income. As Robert Burns puts it, "Its a' for the hiney he'll cherish the bee," but though one may keep them for the profit they bring, the love of them grows on those that keep them. "I do not know how I should live without my bees," a big railway navvy once said to me. In all his leisure time he was with his garden and his bees. In olden times he only used skeps; the honey was harvested after bees were destroyed. The honey used to be put up in jam bottles, and sold in the market. In summer the lines of skeps were each side of the path, all facing one way, towards the south; each lot flew over the top of the one before it. It was a scene of contentment. His garden, crammed full of succulent vegetables and rosy apples, was a keen competitor at the local shows. He had Beauty of Bath and Gladstone apples because they ripened early; their colour always told well on the show table. His only failing was early honey, as he had not modern hives then. I showed him then how to get out the honey in summer from his early swarms, by turning up the skeps and taking out the pieces at the sides; he made more of this in one summer than he had done before with his run honey, and he had always some of the best for himself. At most of our local shows there were classes for honey in comb; he used to send a large dish of these pieces from his skeps. Even after he had his modern hives, and plenty of sections and bars, he would show a small ske of honey from off the top of another skep

He always kept skeps, as he said "they are warmer in winter." Even up till his death he had more skeps than bar-frame hives. He made a lot of profit from his skeps, besides always selling plenty of swarms. One year he sold ten swarms from his skeps, besides having his honey harvest; but he had the love for them as well as the trading value of them. When he found that he could sell the honey from his skeps in summer time as they finished it, and bees refilled up the spaces again, he could not use the sulphur again, which was a proof that he had the lure of bees very strongly, but it was the great profit he made that kept him continually seeing to them. He carried out Burns' teaching, "Its a' for the hiney he'll cherish the bee."

The weather in Dorset is warm, and bees fly well away from the farm. Many snowdrops are open for them, the daisies, and even buttercups, the snowdrops being in greatest profusion. Writers tell us that there is nectar in the green parts of the flower, but with us bees never seem to stay on them any length of time; they seem not to have the sucking motion when on them that they show when on flowers where nectar is plentiful. They leave snowdrops for the Christmas rose. Sprengel states "Bees cannot avoid touching the anthers when reaching for the honey, which is a great aid to cross-pollination." Kerner mentions the varieties of ranunculus to which bees resort, but not many varieties are of use to the hive bee. The small one, Ficaria, which is the first to open in quantity, bees visit, but I have not seen them getting nectar: there is not the motion of absorbing nectar as in other flowers. I have never seen them stay any length of time on the common variety that is so plentiful in pasture fields; these are open now in our fields, just solitary flowers, showing how mild the winter has been. Kerner writes that the hive bee "visits all three of the common field species, *Ranunculus acris*, *R. repens* and *R. bulbosis*, without any distinction (p. 76 in "Mechanisms of Flowers"). It seems strange that bees should visit them at all, as stock leave them severely alone when feeding—at least, when they are young; as the grass gets less in summer they eat close to them, and gradually clear them off. *R. acris* is said by some farmers to carry some offensive, if not poisonous, properties when in blossom. Bees will visit many species of flowers when open in the early season; they are now on the naked jasmine. I wrote of this two years since. One of your readers wrote me that he had never seen a bee on them; it must be that they are guided by sight as well as smell, or they would not be on flowers that had no nectar, or very little, at any time.—J. J. KETTLE.

Jottings from Huntingdonshire

Dear Mr. Editor,—Daddy is busy, and I am helping him out by writing these Jottings. I hope you will be able to read them.

Like my elder sister, who has written to the JOURNAL once or twice, I am very interested in insect life. I often help daddy with his bees, and am going to hear him lecture at Huntingdon to-night. But I think I know more about moths, butterflies, spiders and birds than bees. An article on these, however, would not interest your readers. Shall I talk of some kinds of flies? You will know that some flies so closely resemble bees that they live with them. I don't think the bees mind their presence, as they feed on dead bees and the waste products of their hosts. They don't seem to be very fond of honey, and if they were, having but a single pair of wings they could not fold them up to get into the cells. But another kind of fly is a wicked robber; in fact, it has gained the name of "Robber fly." This insect is even worse than a robber, as it loves to murder. It poises in the air near a hive, and as the bees come forth selects a choice victim, sweeps down upon it, and carries the helpless bee to some flower or shrub, and sucks the nectar from its body. Fortunately there are not many of these lawless insects in England. Daddy once saw a number of bees attack one of these flies, and not until six bees had left their stings in its body did it roll over wounded unto death. If it always takes the life of six bees to kill one of these "robber flies," small wonder that in some parts of the world where these flies are plentiful bees are unable to swarm.

Our bees seem to be very busy in the lovely warm sunshine we are having just now, and one of our queens has started to lay, and that hive, although supplied with candy, like Oliver Twist, keeps asking for more. I think this is all I have to say.—CLIFFORD I. HEMMING.

Acarine Disease in 1885?

The following quotation from THE BRITISH BEE JOURNAL for January 1, 1885, should be of interest at the present time:

"AN INTERESTING DISCOVERY.

"Every bee-keeper knows that bees in old hives are often plagued by lice (*Braula cæca*), but many will doubt that they are also liable to the itch. Yet so it is. Mr. Crapp, Inspector of Slaughterhouses at Strassbourg, has discovered on a bee a species of acarus, which very closely resembles the itch acarus of man (*Sarcoptes hominis* or *Acarus scabiei*). The parasite was examined most carefully by Mr. Crapp, in conjunction with the celebrated

entomologist. Professor Oscar Schmidt, and drawings were taken of it, highly magnified. About fifty or sixty individual parasites were attached to one side of the bee's head, where they formed a little grey patch.—DENNLER, Editor of the *Alsatian Bee Journal*.

"Mr. Otto Hehner, who has kindly translated the preceding paragraph, has added the following:—

"NOTE.—Until by physiological experiment, by inoculation, the identity of the above-mentioned parasite with that producing itch in man is positively established, it appears highly desirable to withhold definite judgment. Similarity in form by no means implies identity.—OTTO HEHNER."

Then, it was, "An Interesting Discovery," not of very much importance, just something fresh to plague the poor bees, and also the possibility that it might be the acarus that produces scabies in man, and therefore the possibility of man being infected through handling bees. But no one dreamt that an acarus would ever produce a disease more devastating than foul brood.

We shall never likely know whether the above acarus is the same as that now designated *Tarsonemus woodi*, but the paragraph is interesting as being in all probability the first mention of acarus in connection with bees.

May I venture a word on another subject? The one class of writer I have no patience with is the one who makes sneering remarks on scientists, and cracks up the practical man. "The eye cannot say unto the hand, I have no need of thee, nor, again, the head to the feet, I have no need of you." In 1865 Pasteur was urged to undertake the investigation of a disease of silkworms which had for several years been ruinously prevalent in the South of France. Pasteur had never touched a silkworm in his life, and was very unwilling at first to undertake such a task. Silkworm cultivators had lost four millions sterling, and now many of them expressed regret that the Government should choose a "mere chemist" for the investigation of the disease instead of a zoologist or a silkworm cultivator. Pasteur only said, "Have patience." In due time he discovered the cause of the disease, and then suggested the remedy. "By the adoption of these methods arrived at by scientific investigation a national industry was restored, and the bread of hundreds of poor families was again assured. . . . Yet throughout the whole period of his researches he met with unbelief from practical cultivators of silkworms and opposition from merchants of eggs and chimerical remedies for the disease."

But there! I have been writing to a bee journal about silkworms. Still, there may be some who will in this case see a connection between silkworms and bees. If Dr. Rennie's conclusions be established beyond doubt the remedy will surely be found soon. Even before then there may be a great saving of hives, combs, etc., as instead of destroying these it may be found that they are perfectly disinfected by fumigating with burning sulphur.—ROBERT TODD.

Norwich Notes and Notions.

I should like to hear the opinions of others on the various races and crosses of bees, from the temper to the utility side. We can, and should, improve the foreign bee. Many a person is driven from bee-keeping through stingy bees, or they have a soft or a swarming variety; also they are buoyed up by misleading novelties and writings instead.

Dutch bees are similar to the native, only more interesting; in swarming the queens soon get mated. By their swarming instincts they build new, clean homes; for this reason they got the name for being immune. They are generally gentle, but not immune. Imported Italians are fine weather bees, very gentle, also soft; some are no better breeders than the natives. The queens are often hard to mate. This means queenlessness, and spells disaster to beginners. Better a first cross; but after that they degenerate. Will swarm when crowded and in season, and use their energies in brood rearing. A cultivated home-raised Italian breed are gentle, hardy. Queens mate easily; they are more immune to disease than any of the above-mentioned; build up rapidly; fine for honey gathering whenever it is to be had. In a good district they will restrict the queen from laying unduly, and need not be dequeened only to prevent swarming. When honey is coming in slowly it stimulates the queen into producing bees, consuming what should be stored as surplus. If this happens in June the population gets immense, and they will swarm if not dequeened.

A dequeened colony will be restless in the evening; they will, of course, build queen cells, and will not strike in doing this. In ten days' time remove the queen cells, they will still work where honey can be had. If no honey about because of unfavourable weather, they will not wear themselves out. Why should they? A colony with a fast-laying queen will work even to their disadvantage. A hard working colony does not always mean more honey. Carniolan-Italian stock we

had worked well, even in winter, always at work, plenty of brood and bees—and no surplus. I should like to know other opinions on Carniolans, etc.; this would be very helpful.

Dequeening has many advantages, especially to those with out-apiaries, and is practised considerably abroad. It requires discretion according to circumstances.

If we can get (and why not?) articles on the advantages and disadvantages of various breeds of bees, the same as we get about other stock, the JOURNAL, I venture to say, will brighten accordingly, and so will bees prosper with their owners. —A. TROWSE, Eade Road, Norwich.

A Few Comments.

[10349] A stock or nucleus should never in any circumstances be transferred immediately on arrival. If it is, what is known in America as "drifting" will take place. I believe that trouble with purchased stocks is often caused in this way. Bees on arrival should always be given an hour or so of flight from the travelling box placed on proposed permanent stand.

(Page 602.) I would, respectfully suggest that Mr. Hemming is all wrong here. My opinion, backed by experience, is that so long as he persists in handling or opening hives before April or after September he will find that the mysterious queen "disease" will continue. Granted that sometimes you may pull a hive to pieces early or late and no harm result, and that you may do so to a large majority without harm, still it will be found that if hives are opened and the bees disturbed much either before April or after September about 10 per cent. of the queens will be lost.—R. B. MANLEY.

Bees Refuge.

SWARM FOUND IN A LAMPSHADE.

A swarm of wild bees sought refuge from the cold by concealing itself in a large lampshade in a Hertfordshire house.

Whenever a fire was lit in a particular room a soft humming was heard about tea-time, as a hive bee or two emerged from some mysterious hiding and descended on the jam. They became such a nuisance that a search was organised and the swarm discovered.

Did the bees mistake the shade for a skep, how did they enter the room, and how long did they manage to live without food? Similar ambuscades of flies have been found, but the fly can hibernate much more deeply than the bee, which needs quite a large amount of winter-food.

Cotswold Notes.

(Told by the Sexton.)

The village sexton, who had kept bees for years in his garden behind the vicarage, bemoaned the fact that "times be-yent narmal." Even in this quaint old-fashioned hamlet, with its crooked main street and winding stream, things were more or less "upside down."

"Yes," said I, "but I suppose you have seen many amusing things in your time as sexton." "Oi, sur, that I 'ave, and many a-time I 'av' 'ad ter scuttle out o' the church w'en the bees bin swarming. 'Oudn't do fer me ter lose one on 'em! I mind as 'ow one Sabbath w'en I was agoing round the church takin' the collection I 'erd the sixpences and threepences a-dropping on as usual till I come ter young 'Arry as lives a-top of the village, an' seed 'im drop in a two-shilling piece. So I thought ter meself, you wasn't me'nt fer me, but, o' course, never looked at 'im or said anythin'.

"A'ter the service was over, an' we 'ad counted up young 'Arry come into the vestry and says, 'I made a mistake this morning. Giv' yer 2s. instead of 1d. You come on me sudden like.' I looked at 'im an' says, 'I knows you did, my chap; but I'll be dazzed if you beant too late now. If I could get it I 'ould, but I can't.'

* * *

"Noa, we don't get tha' dibs as we used ter do. Fer readin' out the banns passon gets 'is proper dib, but I gets nuthin', 'spite of 'em a-coming ter me fust an' me 'avin' ter remind the passon!

"As I tells 'em, marriages out of the village be no good on ter me.

"O' course, w'en a weddin' comes on I got all the arranging ter see to, an' reckons ter get a bit—an' then it's cheap for 'em, without they wants k-harpets down tha' path, an' flowers, then they got ter pay extra. We don't get the bells rung fer nuthin', either.

"I du mind as 'ow once a'ter a christening I was a-waitin' about thinkin' ter get summatt—course I noticed the lady a-talkin' ter passon.

"Afore she went she put out 'er hand, 'urried like, and I took it an' rose me 'at once an' then agen, and says 'Thankee' two or three times.

"W'en she 'ad gone I looks at w'at I took, and I'll be dazzed it weren't more ner a halfpenny!

"As the passon said, 'I be-yant agoin' to get fat on 1d.,' be I? "—A. H. BOWEN.

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of December, 1920, was £10,333, from a return furnished by the Statistical Office, H.M. Customs.

Appliance Manufacturers and Legislation for Bee Diseases.

[10374] The article written by Mr. Flashman (No. 10364) is somewhat misleading. In view of the fact that I was promised at the meeting on February 6, 1920, that a meeting of bee-keepers would be summoned for the purpose of discussing the proposed Bill before any bee disease Bill was presented to Parliament, I feel indebted to Messrs. Taylors for their prompt action, seeing that it is a distinct breach of faith by a Government Department. Had health permitted, I should have attended the meeting.

With regard to the attack upon Messrs. Taylors, it must be remembered that their business is inseparably bound up with the prosperity of the industry of bee-keeping. If they have, or think that they have, reason to believe that any proposed legislation is likely to prevent, or to retard, that prosperity, they are fully entitled to take steps to inform themselves upon the matter—which is what they have done—and to assist in the promotion, or rejection, of such legislation, according as their judgment as business men may lead them to conclude that the industry is likely to be benefited or injured thereby.

You will find on referring to the report of the proceedings at that meeting that Dr. Keeble (the chairman) and one of the representatives of the Ministry of Agriculture endeavoured rightly, to tie all the speakers to the question whether they were in favour of legislation, and a resolution to that effect was placed before us and duly passed.

On reference to this resolution it is obvious that *no vote* was given or proposed in favour of this Bill.

To state that a vote was given in favour of this Bill is a misapprehension. You will see the resolution by referring to the BRITISH BEE JOURNAL, March 11, first column, page 124. "That it is desirable to introduce legislation to check bee diseases or to check the spread of bee diseases."

I should not think it necessary to contradict Mr. Flashman if he had said that the meeting was in favour generally of legislation; but no secret was made of the determination of such of us as have any *substantial interest* in the industry, that under no circumstances should we agree to the terms as proposed in the present Bill.

I regret Mr. Flashman has introduced the Standard hive question into his article, as I think he would have done better to have placed his views on this again before the Council, it being a matter for the Council. It is, however, in consequence necessary that bee-keepers have another view placed before them.

Although a member of the Council, I am of the opinion that they are making an error on this point.

It must be within his memory of Council meetings that I, at the request of the Gloucester Bee-keepers' Association, urged upon that body the necessity of standardising a W.B.C. hive, and I still have hopes that they will decide upon one, submit the proposed dimensions and particulars to the manufacturers, and then, after due consideration of the opinions of the latter, standardise it. Mr. F. J. Burt had already promised his support, as I stated. Other appliance manufacturers would, I believe, find it to their interests to fall into line. It is clear that the Council should not allow any manufacturers to dictate to them what should, or should not, be done.

Should either appliances, or hives, be supplied to inaccurate dimensions, it is obvious that the bee-keeper should reject them, or charge up the party concerned with the cost of putting them right.—G. THOMAS, Causeway, Burwell, Cambs.

Training Boy and Girl Bee-Keepers.

[10375] At the risk of being considered a nuisance, I am writing to try and advance a pet scheme of mine which would, I believe, greatly benefit bee-keeping in the years to come.

I suggest that every association should make a point of offering to train a class of boys and girls in each town or village. The ground is ready, for we find bodies of scouts and girl guides everywhere established. The scouts have a bee-badge, but this, from our point of view, is practically valueless.

The B.B.K.A. might well approach headquarters and offer to provide a syllabus and examiners with a certificate suitable to the age of the candidates, or even the B.B.K.A. preliminary certificate would do. It may interest readers to know that two lads, of a class I conducted both passed for the latter certificate, and one took his intermediate at the age of 15. These were not abnormal boys, but they were very keen. But for the war, they would have made good bee-men.

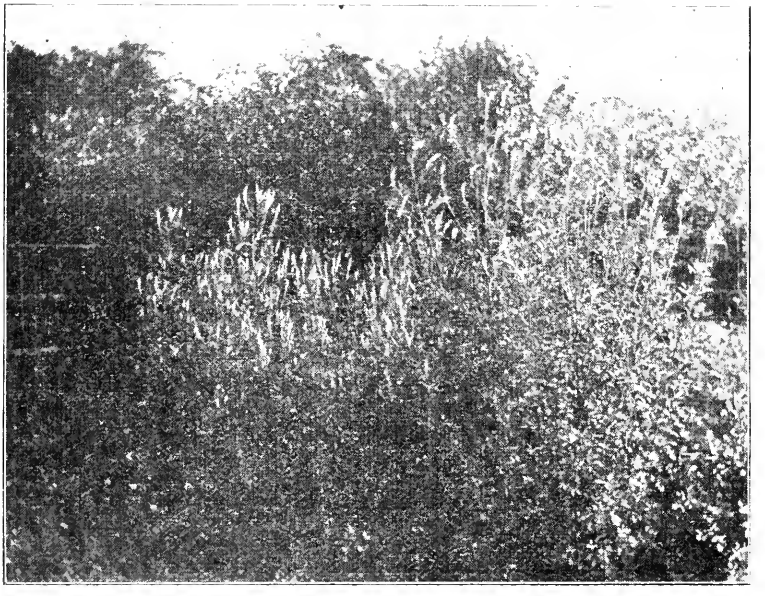
It is necessary if this work is taken up to only provide qualified teachers, only the best will do. Also those who teach must be prepared to keep faith; no failing to turn up at the appointed time, for all

the talking in the world will not persuade them that the only right way is to do the thing now, if the instructor does not act up to it.

I find boys are very interested in the subject, and see no reason why an up-to-date body of bee-keepers should not be prepared to take our places when our time is over.—G. JAMES FLASHMAN.

Sweet Clover.

[10376] There is a slight *lapsus calami* in the heading of Mr. R. B. Manley's article on "The New Annual Sweet Clover" in your issue of January 13. *Melilotus albus* should be *Melilotus alba*, the generic name being feminine.—C. HANSLOPE BOCOCK, F.E.S.



THE ANNUAL SWEET CLOVER.

"Wise or Otherwise."

[10377] To-day (December 30, 1920), about 12.15, the sun coming out fairly bright, and the air being warm (temp. 51 deg. in shade), I could not resist the desire to see if the bees were all right, so, on the spur of the moment, I went for veil and subjugator, and to hive No. 1. The moment I took off the coverings, conscience smote me, and asked if it was a wise thing to disturb them at this time of the year. But, on seeing the bees through the glass cover that I have over them, which, being elevated on four pieces of wood about ½ in. thick also acts as a bee-way in winter time, I lifted glass and prepared for seeing their condition. I lifted out two or three combs, seeing a fairly nice lot of bees (Italian by the way, Penna's strain), and the queen coming in view also, I felt satisfied that all was right, and again covered them up. The whole time taking perhaps five minutes or less.

No. 2, also Penna's Italian, was next opened, and seeing the queen, the question arose in my mind, "Were there any eggs?" So I turned the cells to the light, and saw eggs in several of the cells.

Nos. 3 and 4, being rather weak in the autumn, were placed on five frames of comb each, in a Cowan hive, a dummy dividing them in the middle, and each having a separate entrance, *i.e.*, one at the front facing south, and the other at the side, facing west. I found each of these clustered on the combs nearest the dummy, and fairly strong, with both queens (Penna's again) laying.

Having gone so far I could not resist the desire to see how two lots, 6 and 7, having my own queens in, were faring. In the autumn these were placed together in a hive like Nos. 3 and 4. No. 6 was nice and strong, but the bees seemed to resent being disturbed. As I had opened them I very reluctantly placed the cloth over them for a moment to quieten them (one having *sat down* on my right thumb). I saw the queen, a beauty, but the bees were clustered too tightly to see eggs.

No. 7 (the other half) had in a lately-hatched queen, and was a long time in the autumn before she was fertilised and lay-

ing, so long, in fact, that I went to them about the second week in October, determined to kill her and unite the two (6 and 7).

On opening them, however, I found a very nice queen, and as she had begun to lay, I decided to leave her, and see how they went on through the winter.

This is the stock I really wished to see to-day. I found a beautiful queen, a nice lot of bees, eggs, and some sealed brood. I question if she has stopped laying since being fertilised. I covered all up snug and warm, and felt very glad that I had saved her life in the autumn.

Now, Mr. Editor, the question arises, "Was it wise to examine the bees as I did to-day?" Of course the sun was shining, warm, no wind, and the thrush was singing. I looked through six lots in about 30 minutes. The sun hiding himself at the end of that time, I left the remainder to be looked at some other day. As a bee-keeper of some 25 years, or more, with a fair amount of experience, I do not anticipate any bad results myself from my examination to-day, but should not recommend a "novice" to do likewise. I am giving "locality and date," as I think it would be a great help to readers if all articles in the B.B.J. were dated and localised.

Re the question in to-day's B.B.J. (with regard to the Editor's selection of articles suitable for the readers of the B.B.J.), may I suggest that if a few practical words of comment from the Editor, giving his opinion of the articles published, and corrections where necessary, might in the opinion of many of its readers be very helpful, not only to novices in bee-keeping, but to many who are past that stage, but who are not experts of the first-class.—"CHESHIRE."

[As our correspondent heads his letter "Wise or Otherwise?" and asks, "was it wise to examine the bees" at that time, we most emphatically say it was "otherwise." If there is any doubt as to the food supply, a peep under the quilts and the renewal of the supply of candy, on a mild day, will do no harm, but to take out the combs and break up the cluster is another matter altogether, and though it may not chill the brood, if there is any, the disturbance may cause the loss of the queen. The only other excuse for looking into a hive is when no bees are flying from it, on a mild day, when those from other hives are indulging in a "cleansing flight." Before opening the hive make certain that the entrance is not choked up by dead bees and debris. If it is clear, or no bees come out when it is cleared, *then* look inside the hive to see what has happened.

We do not care to make too much comment on articles, or it might appear we were always trying to push our own opinions, but we do like to have the comments of other readers, and we have a feeling that when we have made ours, others feel choked off, especially if they hold different views to ourselves.—EDS.]

THE ANNUAL SWEET CLOVER.

Tanging.

[10378] I have been reading the article on Tanging in the B.B.J., and I might say it has been very interesting to me, a first year beekeeper, and I would like to state what took place in this district last Whit Monday.

A game of quoits was being played at a village two miles from my home. A friend of mine was just ready to pitch at the mark when he saw a swarm of bees in the air. He started to do what he would have done if it had been a flock of starlings, or anything else, namely, clap his quoits together and make a noise. He did not do it with any idea of bringing them down, but they did come down, all around him, and he, not being a beekeeper, dropped his quoits and ran. They left him and went to a village three miles on and took up their abode in the tiled roof of a farmhouse, and they are there now. How far they had come I have not been able to find out. The nearest bee-keeper in the direction from which they came would be two miles, but they did not come from there, as I was at that apiary at the time the incident took place buying my first swarm.

I have now two strong stocks, and I am looking forward to next season, not for profit, but pleasure. — W. E. Hobbs. Northants.

The Rev. H. Newman and the Kent B.K.A.

[10379] The Editor of *Beecraft*, the official organ of the Kent B.K.A., seeing my remarks on the K.B.A. in The British Bee Journal of December 16, 1920 (10348, p. 607), has written asking me for "constructive criticism." I therefore ask you to insert my reply.

My chief point of criticism of the K.B.A. is that it has nothing to follow up the natural result of its multitudinous lectures on the profitableness of bee-keeping.

Many have started bee-keeping lately, started often with late swarms, or too late nuclei, and when they most wanted someone to help found that their County Association has no expert who visits periodically to inspect the hives of its members.

Most County Associations have one or more experts for the above purpose, and not only for lecturing and exhibiting. If the County Council gives a grant for bee-keeping, some part of it ought to be available for this purpose, as well as for the countless lectures that are now being given.

As I said in my remarks of December 16, the K.B.A. is like an Italian stock of bees; it has swarmed and swarmed to a stage of weakness. Numbers of branches have been formed, but I know of committees elected but never called together, either to discuss or do anything in connection with the craft.

Last year my *Beecraft* came by fits and starts from Canterbury; this year it has come from Ashford. Monthly indeed, but in the middle of the month; perhaps that is caused by the weighty lists of officials of the two Associations and lists of lectures. I cannot see the advantage that even a beginner gets by joining the K.B.A., as he can attend some of the many County Council lectures gratis, although he really pays for them in his county rate.

I think decentralisation is wanted. A few small Associations would be far more effective than one which seems so vague and unwieldy.—Herbert Newman, Kennardington Rectory, Ashford, Kent.

[Although very often the visiting expert has been denounced as the disseminator of diseases and other ills, he, or she, is a valuable asset to any Association, especially if the work is done tactfully, carefully and conscientiously, with all due precautions taken to prevent disease being carried from apiary to apiary. To the beginner, who is a member of a County Association, the visit of the expert is eagerly looked forward to, and is of great help. Too often, also, the visit of the expert is the only tangible link—except paying the subscription—between the member and the Association. —Eds.]

Notes on Heather Honey.

[10380] I was much interested in Mr. Price's lecture, for, as he well knows, having been our touring expert, the members of the Northumberland B.K.A. are almost to a man heather men, and few try for any crop save that from "the moors." As I expected, some of his statements have been queried, especially re *granulation*.

I wish I had kept all the letters I received at the time from heather men, North, South, East, West, Scotland, and Ireland, when I was collecting data for a lecture that I gave at a conversazione in April, 1912; but from all the evidence that I then collected and sifted I came to certain conclusions, and my experience since has not led me to alter them.

Before repeating what I then said, I must first premise that heather honey is unlike any other, and the more one studies it the greater the contrasts, almost contradictions, there appears to be between it and any other variety.

A lady in my neighbourhood lays by

large stores of heather honey at a time, and keeps it for years, and she only occasionally finds it granulated. One heather man says: "I have kept a section for two years by putting it on a plate and covering with a basin, cutting it in two, and laying it on its side on the plate, and it was absolutely free from granulation, with no running on the plate, but just the same as if taken from a hive. I have kept two sections for five years with slight granulation." Another, with twenty-five years' experience, says: "Pure heather honey, 100 per cent., will hardly granulate at all." Mr. McNally says: "It will granulate if kept in a low temperature (both comb and pressed)." D. M. M. says: "Well ripened heather honey does not candy readily." A man, whose opinion I value, says of granulation: "The levulose never; after about six months the dextrose will granulate in large granules and leave the levulose liquid, having then the appearance of golden syrup mixed with rough oatmeal." I have often seen sections that exactly answered to this description.

Now, here is another case of the contradictiousness of heather honey. Granulation is considered a sign of purity in honey. But is it so with ling honey? One heather man goes so far as to say: "My opinion is heather honey, *really pure*, will not granulate at all, and heather honey generally so-called pure is not really so, and the less pure the more the granulation." He is corroborated by many. "The least mixture of mustard, which blooms at the same time as the ling, will cause all honey to granulate very quickly. A mixture of any other will cause it to granulate smoothly," is the result of observation in Yorkshire. That an early heather-flow does not yield heather honey of the purest, because other sources of nectar are available at the same time, is true. One wise man prefers to send to extra high moors, to avoid the risk of his bees gathering from other sources. Granulation gradually increasing according to the amount of *other* than heather in the cells seems to sum up the results of many observations. . . . Regarding reliquefying granulated heather honey, Bro. Colomban, of candy fame, whose skill nobody will dispute, notes that heather honey does not behave like other honeys when reliquefied. It loses both mellowness and consistency.—F. SITWELL, Wooler.

Price of Candy.

[10381] Messrs. Pascall's list, just to hand, asks 8s. 9d. for 7 lbs. of candy, the retail price of lump sugar being 9½d. and candy 1s. 3d. Some time since this firm handed over a considerable sum (profit on candy) which came out of the pockets of the bee-keepers. I esteem the feeling which prompted this action.

Now, after forty years' experience of bee-keepers, I consider them perhaps the most generous section of the community, and I think they are entitled to some consideration in the matter of feeding stuff for their bees, especially bearing in mind the disastrous season of 1920.

If our county councils would endeavour to get a rebate on the price of candy they would earn the gratitude of bee-keepers and all who enjoy honey in any form.—COLTHRIP J. GILBERT (Expert to Wilts C.C.).

[Because Messrs. James Pascall undertook to make candy without any profit accruing to themselves during the war—a public-spirited action which was never fully appreciated—it does not follow that either they, or any other manufacturer of candy, should now continue to make it without profit; they cannot afford to do so.

Before the war, when sugar was 1½d. per lb., the price of candy was 6d. per lb., leaving the maker 4½d. for making. Now, sugar is 9½d. and candy 1s. 3d., allowing 5½d. for making, a very small increase, taking into account the greatly increased cost of labour and other working expenses, and there is a reduction on this price if a quantity is taken. Either the county associations, or a number of bee-keepers co-operating together, might purchase, say, several hundredweights of candy, and thus save not only on the prime cost, but on carriage. We are afraid it is of no use looking to the county councils for help in this direction.—EDS.]

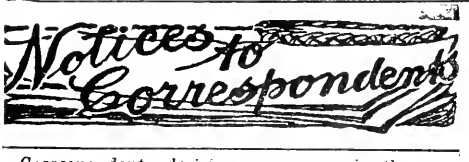
Aluminium Extractor.

[10382] I have not tried aluminium as a honey container, but I am afraid it would not be a success as an extractor (*re* Query 9,917).

As a commercial thing it is costly, the metal being very soft, and therefore a stout "container" is essential for rigidity, making it costly.

Further, the metal is easily eaten by salts, *i.e.*, ordinary soda, etc., therefore extreme cleanliness and very dry storage is as necessary as in the case of tinware. The acid decomposes the metal in the form of a white powder and perforates thin metal very quickly.

I have had experience of aluminium cuttings (scrap) being stored in an old soda sack in a fairly dry place, and in a year or two found only powder, the metal being eaten up. I thought these few thoughts might be of interest.—F. R. CLUBB.



Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

H. DOWNING (Totnes).—*Using partly filled sections.*—The sections will be useful as "bait" when supering during the coming season. Put one or two of them in each rack. They will attract the bees, and once having taken possession they will remain.

E. M. CHADWICK (Norfolk).—*Queries on feeding.*—(1) To ascertain if food is needed you may turn back as much of the quilt as necessary. You will be able to see if there are any sealed stores. (2 and 3) For the present give candy. About the end of March you can give the shallow combs, first uncapping the honey, or you could feed with honey as per sample you sent, which is quite suitable, but boil it first as a precaution against disease.

D. E. (Cards.).—*Difference between Dutch and native bees.*—There is very little, often no difference, in the appearance. Pure Dutch bees are rather darker, but many of the bees from Holland have Italian blood in them, and are more or less banded with the golden colour of Italian bees.

Suspected Disease.

J. A. N. (Higham), MRS. M. L. GILL (Lincs.).—The bees died of Acarine disease.

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ½in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on MONDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

LANTERN, oil, spare lens for photo enlargement, sheet, and set of about 60 slides.—Price and particulars, ANDREWS, 78a, Westgate, Peterborough. 1.51

SURPLUS ITALIAN STOCKS, £5; box and carriage free. Wanted, first three numbers *Bee World.*—DOUPE, Maam, Galway. 1.59

FINEST EXTRACTED HONEY of splendid quality, none better, 1s. 9d. per lb. About 3 cwt. to offer.—S. LEIGH, Broughton, Hants. 1.55

2 LB. of Chapman's Honey Plant Seed. A small lot will be given to bee-keepers for stamped, addressed envelope.—B. WOODLEY, Apiary, Thorne, near Doncaster. 1.54

LIGHT CAMBRIDGE HONEY, guaranteed pure, 13-lb. tins, 21s. 6d.; 28-lb. tins, 45s., carriage paid.—J. YOUNGER, 6, Maid's Causeway, Cambridge. r.1.53

WANTED, for North of England, a full-time Bee Expert for re-stocking and educational apiary, also for lecturing and visiting in the county; some knowledge of practical fruit growing would be an advantage; living quarters provided.—Applications, with salary expected, to Box 4, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. r.1.56

400 SECTIONS, 50 Standard Frames, 6 dozen Frame Ends, 3 dozen Metal Dividers, Woblet Spur Embedder, Glass Section Measure, all new. First offer has the lot.—HUTCHINSON, Brearwood, near Kendal. 1.57

42 LBS. excellent Heather Blend Honey (granulated) in tins; will exchange for spare hives. Will also exchange healthy Nuclei in May for spare hives, W.B.C. preferred.—Offers to ATWELL, "Brockhurst," Cove, Farnborough, Hants. 1.58

A FEW good Sections of Honey, glazed, at 2s. 6d. each, carefully packed, and carriage paid on ½ dozen or dozen parcels.—W. WOODLEY, Beedon, Newbury. 1.52

WANTED, Stocks guaranteed pure English Black Bees.—Price, particulars, BROOKS, Winthorpe, Newark-on-Trent. 1.62

PEN of six pure White Wyandotte Pullets, laying, £7 10s.; pedigree supplied. — W. WOODS, Normandy, near Guildford. 1.66

DAY-OLD PEDIGREE CHICKS, White Wyandotte, delivered in April, 25s. a dozen.—THE MISSES COATES, Broadheath, Presteigne 1.67

30 W.B.C. HIVES, square, no plinths, oak legs and joists, porch, creosoted twice, Asbestone roof, new, 38s. 6d., f.o.r.; floorboard feeder 3s. 6d. extra. Others from 18s. 6d.—JACQUES, Lichfield. 1.68

GOOD GLAZIER'S DIAMOND, perfect, 8s. 9d. —HUBBARD, Northkilworth, Rugby. r.1.42

EXTENSIVE BEE-KEEPER wishes to get into touch with other ex-Service bee-keeping officers and men. Will those replying please give regiment or ship, and state if disabled?—Box 2, B.B.J. Office, 23, Bedford Street, London, W.C.2. 1.32

25 PURE ITALIAN STOCKS, £5 5s. each; 15 Italian Hybrids, £5; 20 Blacks, Italian strain, £4 10s.; travelling boxes 10s. extra, returnable. Guaranteed healthy on arrival. Great satisfaction given to all customers last year.—J. YOUNGER, 6, Maid's Causeway, Cambridge. r.1.26

ONE-THIRD ACRE, Freehold, six miles Southend, Essex, good honey district, £25.—Write, ROSS, Strethall, Essex. r.1.31

SURPLUS Hives and Appliances for Sale, good condition, cheap.—PEARSON & GALE, Marlborough. 1.11

HONEY, Gloucestershire. Particulars, stamp.—CAMERY, Itchington, Alveston, Bristol. r.1.3

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

Our Bees and Queens are Second to None. Catalogue free. PEARSON & GALE, Marlborough

BUSINESS ADVERTISEMENTS.
1½d. per word.

IMPORTED ITALIAN QUEENS FOR 1921.—List on application.—PEARSON & GALE, Marlborough. r.k.88

"AMERICAN BEE JOURNAL" for December. This includes articles on "Economic Aspects of Apiculture," "Preparing Bees for Shipment," "The Honey Bee in Russia," and many interesting notes and queries. 10s. per annum, post free.—Agent, E. J. BURTT, Stroud Road, Gloucester. l.48

ENSURE A GOOD HONEY CROP this year by purchasing one of our noted 6-frame Italian Stocks. Illustrated Catalogue free on application. —PEARSON & GALE, Marlborough. l.16

BOOK NOW.—Pure Italian. Early Swarms, May and June, £2, plus carriage; 3-frame Nuclei, May and June, £2 10s.; a few Stocks, 8 frames, £5. Guaranteed free of disease. Cash with order. —N. WILKINSON, Farnham, Saxmundham, Suffolk. r.l.57

BEES AND QUEENS FOR 1921.—Send for our new Illustrated Catalogue, free on application.—PEARSON & GALE, Marlborough. l.15

"W.S." STOCKS at nucleus rate, and Nuclei greatly reduced for 1921.—S. SIMMINS, Queenland, Heathfield, Sussex.

DON'T BUY BEES until you have seen our prices and guarantee. You risk nothing, as we return money in full if bees fail to give complete satisfaction. Illustrated Catalogue free on application.—PEARSON & GALE, Marlborough. l.17

CARNIOLAN or Carniolan-Italian first cross, unsurpassed for honey production, especially heather. Isolated apiaries for pure mating. Descriptive list free.—SWAFFIELD, Libertus Villas, Cheltenham. l.60

INCOMPARABLE CREAM CANDY.—Every cake perfect. Extract BRITISH BEE JOURNAL, 15/1/21: "The sample of candy is excellent . . . it is exceedingly well made." 6 lbs., 8s. 6d.—BOWEN, Apiaries, Cheltenham. l.61

"LET THE BEES TELL YOU," 3rd edition, 2s. 6d. paper, 4s. 6d. cloth.—S. H. SMITH, 30, Maid's Causeway, Cambridge. l.63

STRICTLY BUSINESS.—Flavine Bee Candy, 6 lbs., 9s.; Japanned Sprayers, 6s.; Floorboard Feeders, 10s.; post paid. Send for price list of Italian Queen Bees and Cambs Bee Stocks.—S. H. SMITH, 30, Maid's Causeway, Cambridge. l.64

SAVE MONEY!—Buy direct from makers. I have one gross Straw Skeps and half gross Supers ready for delivery. Special Hives made to order. No order too large or too small.—H. SEAMARK, Sunny Dale, Willingham, Cambs. l.65

FINEST ENGLISH HONEY, in 28-lb. tins, 1s. 11d. per lb., carriage paid. Satisfaction guaranteed.—PEARSON & GALE, Marlborough l.13

"WIGHT" DISEASE.—Prevention and removal. Advice 5s.—ALF. RYALL, Cottage Farm, near Camp, Stroud. r.k.143

ARTISTICALLY Illustrated Catalogue in connection with Dutch Bees and Bee-keeping sent free on request, containing information about queens, management, etc., making it an interesting booklet.—WHYTE, "The Bee Farm," Cumbernauld, Dumbartonshire. r.k.144

400 USED Commercial Frames in flat, sound condition, guaranteed healthy; 25 for 5s., postage extra.—PEARSON & GALE, Marlborough. l.12

ITALIAN QUEENS direct from Italy.—Address, ENRICO PENNA, Bologna, Italy. Price List for 1921 on application. r.k.121

IMPORTANT!—In spite of the increased cost of appliances and carriage, we are offering our celebrated 6-frame Stocks at reduced prices. Catalogue free on application.—PEARSON & GALE, Marlborough. l.14

MASHEATH HIVES are made by their designer and originator, M. ATKINSON, The Bee Park, Fakenham, who will be pleased to reply to all inquires. r.k.141

SECRETARIES of Bee Associations requiring Italian Queens at wholesale prices are requested to write to Box 3, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2, when they will hear something to their advantage. r.l.39

£250 per annum,

Offered as Half-share in old established Bee business.—Particulars, "A1," c/o British Bee Journal.

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Full page	4	0	0
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1 in across page	0	18	0
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1 in. single column ..	0	10	0
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THE
British Bee-Keepers' Association.

The recognised centre of practical and scientific bee-keeping in Great Britain. Particulars and conditions of membership may be obtained from the Secretary,

W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

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Get a Copy—Thursday and Saturday 3d. The "Bazaar" publishes also practical handbooks by experts. Send for full catalogue, post free from—WINDSOR HOUSE, Breams Buildings, LONDON, E.C.2.

Our Bees and Queens are Second to None. Catalogue free. PEARSON & GALE, Marlborough

"Victory" Queens. Wonderful Honey Queens at Pre-War Prices. **"Victory" Queens.**

Extraordinary Carniolan Strain crossed with our specially selected "White Star" Drones.

The remarkable Queens selected for this cross produced several enormous colonies, and many solid slabs of honey during the disastrous season of 1920

The young Queens from this remarkable mother, mated as above, will be offered at **10/6** on first early orders; but it should be realised that it is quite possible all prices will again advance when the Bee Diseases Act comes into force and prohibits the importation of foreign Queens.

THE SECRET OF RAPID INCREASE

(continued.)

The quilting used is equal to one inch of felt in thickness, whatever material or number of thicknesses may be used. The entrance at this season is at first only half an inch wide, but is extended as required later.

HOW TO FEED TO MAINTAIN A CONSTANT BROOD-REARING TEMPERATURE.

But the feeding. Ah! that is a very important item. Without constant feeding there is no encouragement, no brood-rearing temperature, no power for development. Consequently, the "little gem" dummy feeder is never allowed to become empty, and the syrup (as yet being made with one-fourth more water than for later storing) is always where it is kept warm, close by the cluster.

"The nucleus you sent me has done splendidly. I have made it into THREE STOCKS; and later the original stock swarmed."
West Kirby. W.P.

This is not the case with a bottle feeder, which I may say at once is quite useless, and will never stimulate the bees to the needed activity, as does the open frame feeder, where the workers can get right in at the syrup by the hundreds, and will simply roar while doing so; and thus only will they develop and maintain the necessary temperature and "vim" required for rapid brood-rearing.

By the time the first young bees begin to hatch out, the central comb will be almost solid with brood, and under this active method of stimulating the essential temperature for brood rearing has been so constant that the bees will have developed a patch of brood in the second comb. As soon as the first larger patch of brood has mostly hatched out, and the cells are again occupied by larvæ, a frame with not more than one-half depth sheet of foundation is placed between the two with brood.

Then, in addition to the constant supply of thin syrup, a cake of candy is kept going close on the bare frames, and, of course, covered by the warm quilting. No feeding holes are cut in any quilts at the Queenland Apiary, for all feeding is done below the quilting, thus no operation is discounted by cold food.

Why not add a full sheet of foundation? For the simple reason you would at once divide the cluster, and at this season that would be fatal to the object in view, the bees being immediately discouraged. With the shallow sheet of foundation the cluster is encouraged to expand, and is, of course, connected below, when the cells are rapidly drawn out and immediately filled with eggs, while the comb is also gradually extended downwards in a semi-circular form, solid with brood, so that in a few days another similar sheet of foundation may be added at the centre.

Why not add a fully drawn-out comb at the centre? For another decided reason. The cells would be immediately filled with food instead of brood, the brood already there would be divided, and the progressive state of the young stock would be lost, for slow feeding is of no use at this season in building up small lots.

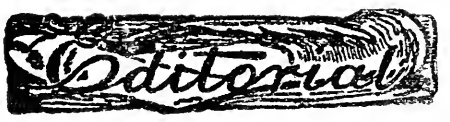
"I also had two other nuclei from two other places, but I have had nothing but trouble with them."
West Kirby. W.P.

ONE FRAME OF BEES TO FOUR WITH BROOD.

Before the middle of October the early September one frame of broodless bees will have brood in four frames, three of which being almost solid with maturing young. And now full combs may be added, one on each outside this time, when, having more room to store, the bees will take the syrup more quickly. This is now given thicker (the usual one pound of best loaf sugar to one-half pint of water). Often a further comb is added at the sides to carry enough stores for the bees, which now number more than those of many normal stocks at this period.

(To be continued.)

Stocks at Nucleus Rate; Nuclei greatly reduced for 1921. S. SIMMINS, Queenland, Heathfield, Sussex.



Our Papers and their Policy.

Readers will be interested to know that THE BRITISH BEE JOURNAL and BRITISH BEE-KEEPERS' RECORD have been sold to Mr. J. Herrod-Hempsall, and he took possession on January 1. The policy of the JOURNAL carried out in the past will be continued in the future, and the columns will be open to all interested in bee-keeping for free and full discussion of the subject.

Mr. W. Herrod-Hempsall, the late proprietor of these papers, who, during the war, acting in an advisory capacity to the Food Production Department, has, on the reconstruction of the Ministry of Agriculture, now taken up a permanent position at the technical office on Bee-keeping to the Ministry of Agriculture, and will devote his whole time and attention to this work. Readers of the JOURNAL will undoubtedly feel that Mr. W. Herrod-Hempsall will in this capacity be able to do more good in the interests of the bee industry in Great Britain than has hitherto been the case. While sorry to lose the services of Mr. W. Herrod-Hempsall, we have no doubt that our readers will wish him every success in his official career.

A Dorset Yarn.

When the war was on in France some of your soldier readers wrote me of the pretty scabious that grew so plentifully near the war-swept areas, and, what was more pleasing to them, they saw the bees gathering the nectar. These pretty mauvy-blue flowers are one of the things that botanists state do not belong to the great order of Compositae, yet to the simple observer it seems to belong to this order. Kerner states that *Scabio arvensis*, or, as some call it, *Knautia arvensis*, "the honey is easily accessible: that about fifty flowers unite in a capitulum, visited by honey bees abundantly for nectar, rarely for pollen: some of the flowers are hermaphrodite, the honey is secreted by the upper surface of the ovary." All the florets seem to be wholly of anthers when first they open: some of these are carried away by pollen-feeding insects, for there could not be perfect pollination unless, when searching for nectar, bees carried ripe pollen to the stigmas as they develop.

The other common variety, called *Scabio succisa*, Kerner writes, has "fifty to eighty florets in the capitulum; honey is secreted by a small fleshy ring above the ovary—honey accessible to short-lipped insects; *Apis mellifica* sucks honey and collects pollen." Darwin writes that "some of the plants are female as well as hermaphrodite." This flower has an arrangement of hairs above the honey to exclude rain; the anthers seem to be carried away or are withered before the stigma is fertilised, but bees carry pollen from other male parts to the stigmas to complete pollination. These exceedingly beautiful flowers are wonderfully floriferous from early summer till late September, and last year in October, which is a very long season for bees. Besides honey bees, these flowers are visited by all races of hymenoptera, by many two-winged flies, by butterflies, and some of the beetle family, but I cannot tell if the latter get food from them.

Our bees have been very much in evidence this last week, and they were sucking the moisture out of the mortar between the bricks after the builders had laid them. I have never seen this before, though they have taken moisture from many strange places during many years of observation; they are on these new walls every day that is fine and warm. The blacks seem to be the most active: many of them that have partly-capped sections and shallow-bars on top are up in them these warm days, but they do not unload them very fast, so far as can be seen from the small glass covering, but those that have no surplus stores are all up to the top of bars. There are far too many bees for me to see if there is any food still stored in the tops of centre combs. I can only see the outside combs with stores; the narrow piece of glass across the top covering board does not have any condensation, but one hive where a large piece was over the top there was moisture beneath the glass, but the black bees beneath were in huge numbers and most active. Each lot of blacks and hybrids were flying far away from the hives, where the yellow gorse was most plentiful, on the roadsides and waste places. This is now covered with blossoms: very pretty these look when swaying with the wind: the wild moorland has the two varieties, but it is the strongest grower that blooms so freely in winter, the prostrate variety blooms in summer. In the Salisbury area, where sheep have access, the blossoms were absent. They had either been eaten or had not opened, though only thirty miles from our farm the growers all state it is much colder than with us, who are close to the sea (we are within five miles), but snowdrops and crocuses seemed just the same there as with us. Even there in Salisbury I saw

the first flower of forget-me-not out in the open "Where the Avon gently flows," but the gorse to me is wonderful, in that it blooms all winter, unless frost is continuous many days; even then, as soon as it is gone the young blossoms begin again. It brightens up the rural areas, and proves to me that we live in a land of beauty—all beauty for our enjoyment, thanks to the Giver of every good and perfect gift. "Happy he who walks with Him," as Cowper aptly puts it; "His presence makes all so fair."—J. J. KETTLE.

Jottings from Huntingdonshire

It is refreshing to note how our daily papers, from *The Times* downwards, have warned us all to see that our bees have plenty of food for January or February. Truly the warning is very timely. Those people who believe you should not so much as raise a hive roof between the end of September and beginning of March will have a shock if this mild weather continues. The bees are all agog, and many of them have discarded play for labour. In watching the returning bees to one hive yesterday I was surprised at the amount of pollen being carried in. Daisies and dandelions are flowering apace, but these flowers are not nearly so useful to bees in January as in March and April—the pollen is unripe and the nectar not so good. Albeit they help to occupy the bees, although the wallflowers, the snowdrops, the aconites, and the arabis are first favourites. Celandines are opening, too, so with the crocuses and hazel catkins ready to blossom our little friends will not be short of pabulum.

In common, no doubt, with most beekeepers, I have received very many catalogues and price lists from queen breeders and importers, bee importers, and apiarists, British and foreign, and bee-appliance makers. The thing that strikes one most is the steep prices which still rule. There appears no likelihood of an immediate fall in the cost of bees, hives, etc. One could tell the year of these catalogues were they not dated, by a phrase "guaranteed free of acarine disease." It sounds up to date, and is, and one hopes we shall now let the term "Isle of Wight" disease sink into oblivion.

I have said much in favour of Italian bees from time to time in these Jottings, and have nothing to withdraw—they are, without doubt, the bee superb, and I have also tried to be kind to the Dutch ladies; I am going to be still kinder. Find yourself at a bee meeting and be sure the Dutch bees will be called many uncomplimentary names. The best that seems to be said of them is they are excellent for re-stocking, but useless as a source of profit. "Do nothing but swarm"; "Kill every Italian queen introduced"; "Work for themselves and not for their master" are some of the remarks one hears. Yet judiciously handled, the Dutch bee is the most furious worker of them all. Where is the person who won't agree that Dutch bees will, for instance, fill up ten frames in a brood nest in less time than any other race of bees. Are they not, too, past mistresses in wax-secreting and building. Always swarming, are they? That's been bred in them. Reared in skeps, and not high ones at that, what else could such prolific insects do but swarm? Superings no good, isn't it? I beg to differ. Give Dutch bees room, room, room, all on the same floor level, and if they swarm it won't be before they have left 30 or 40 lbs. of surplus honey behind them. A swarm of Dutch bees in August will do more than a July swarm of any other breed. Where is a queen other than Dutch that will fill up nine or ten frames of brood within a week of October? I love my Italians and their golden bands, their pranks, aye, and their temper; yet I shouldn't like to be without at least one stock of Dutch. They would be worth keeping, if only to watch them going from and returning to the hive. Following one another, almost as closely as one word follows another in print, it is a fascination and a delight. My advice, therefore, to those about to purchase a Dutch stock is "Do." You won't regret it, if you let them have plenty of work to do. Half sheets of foundation, quarter sheets in the supers, and they'll be happy. Extend your hive lengthways if you can, or get one made to take about twenty-five frames placed parallel to the entrance—the queen excluder, suspended between the tenth and eleventh frame, and await the results. As a comb is filled with honey take it out and extract and return or put in another empty one, and if you get more than one swarm in a season under these conditions from each hive I should like to hear of it. To those wishing to get Dutch-Italian or Italian-Dutch hybrids—the former for preference—should have a Dutch stock working in the midst of their apiary, to which give a few frames of drone foundation and leave the rest to Nature. I had better say here that I am not connected with exporters of Dutch bees and have no axe to grind.

The drying winds, after weeks of rain, often play pranks with the woodwork of hives. Beware! A splendid covering for hive roofs is Pluvex roofing felt. Mr. Manley recommended it to me, and I am finding it all he claimed it to be, and it has the advantage of being inexpensive.—E. F. HEMMING, Steeple Gidding.

Safe Wintering.—II.

By D. M. Macdonald.

The *quantity* of winter stores to make certain that a normal colony of bees will survive the rigours of an average season, start breeding in, say, early February on a small scale, carry it on through March more extensively, and later rear thousands of bees, increasing month by month, should not be less than 30 lbs. It is becoming more fully established as an axiom in apiculture that all of us should do "our spring feeding in autumn," therefore before October begins see to it that every colony possesses this quantity of good honey gathered by the bees, or its equivalent of well-made sugar syrup taken down by the bees at a time when they can mature the stores, and while weather is favourable seal every cell in the combs. Please note the phrases, "good honey," "well-made sugar syrup," "mature stores," and "sealed cells," because the *quality* of winter stores is about as important as the quantity. Healthy stores mean healthy bees; both of these mean profitable bee-keeping, because without them we must fail to secure safe wintering. Recipes for the manufacture of candy and syrup can be got in any good bee-book, so it will be unnecessary to take up space in reproducing them here. Follow your instructions very carefully, and there should be no reason for administering bad food to the winter-packed bees. An ample supply of good, healthy food is an essential of safe wintering. Given that the bees will do their duty in keeping up the heat of the hive, however cold the season may prove; we, their owners, must supply them with the wherewithal to do so.

The bee-keeper can supply his valuable aid to maintain an equable temperature, and this brings us to winter *packing*. Overhead I consider is the weak point in failing to retain the heat of the hive. Given an escape, there you make the life of the bee a burden in extra cold weather, you cause extra stores to be consumed, and likely court the appearance of dysentery in early spring. Therefore, wrap up the top of the frames with an abundance of coverings—a superabundance will work no ill. Warm carpeting or blanketing is the best material set smoothly over the linen quilt. One essential of this warm wrapping is that it must be kept dry. Any dampness is a detriment to the bees' well-doing. Therefore, before winter sets in, certify that the roof of your hive is thoroughly damp-proof; no leakage of snow, rain or sleet must be allowed, because the tiniest trickle from a tiny leak will work for evil. It may be well to give a coat of paint yearly to every hive roof, and so safeguard against this very real evil. No bees can be comfortable with damp quilts. The exterior condition of the roof has thus a reflex influence on the interior of the hive and the health of the colony. The question of *ventilation* is of the utmost importance in securing safe wintering. In the most arctic winters bees breathe, and thus gradually change the air in the hive from a pure and healthy condition to an impure and vitiated state. Inhaling this fouled air must tend to weaken the bees of the cluster, because their health must suffer from an overplus of bad air breathed into their systems. It is well, therefore, to have the interior air of every hive periodically purified. Fortunately for us and the bees the bad air rises; that admitted at the entrance gradually takes it place. Any forceful rush upwards would cause a draught which would be injurious to the cluster. It must be induced to rise slowly, and the vitiated air will imperceptibly escape by percolation up into the vacant space below the hive roof, and then make its escape through the ventilators placed there for that purpose. Overhead coverings should therefore be pervious, not impervious. Let them be of a warmth retaining nature, but still not of too solid a substance. Our own blankets retain the heat generated in our bodies by the warmth-supplying food we eat. The coverings over the frames retain the heat generated by the bees, and they maintain that heat by a steady consumption of heat-giving stores contained in the nectar-supplied cells. All the time there is a very gentle upward loss of the fouler gases and impure air vitiated by the breathing of the bees. This system of steady ventilation is of immense importance to the well-being of the winter cluster, and would easily afford a whole article devoted to itself. At present it must suffice to touch only the fringe of the subject. Ventilation is certainly one of the most important factors going to secure safe wintering. Please give it due consideration.

The nature of the *queen* heading every colony of bees being winter-packed should, in a measure, take precedence of every other prime factor. She is to be the mother of every single unit of the teeming thousands forming the summer population, and on her fecundity depends the measure of success or failure attending the efforts of the colony as a whole. Have such a queen a young one, if possible. Old ones are often a snare. A queen laying in the height of the season, say, 4,000 to 5,000 eggs a day, must produce bigger battalions of young vigorous bees for the principal honey-flow than another queen laying only about 2,000 to 3,000. In herself she has the energy to keep on laying at the maximum rate for a long time.

Then her bees in their multitudes keep on forcing the pace by a liberal stoking of the rich food which make eggs her one and only consideration. Hence her ovaries are teeming with that which makes more, and ever more, bees.

(To be continued.)

Notes from Gretna Green.

Although the apiary remains outwardly quiet, steady progress is indicated by the increasing warmth under the chaff cushions, and my large frame colony is apparently again the foremost. I am pleased to note the return of "D. M. M.," and hope that the signature "W. Woodley" will not remain a monopoly of the "ad." columns.

THE B. D. BILL.

I am in entire agreement with the opponents of this Bill, and prefer to think that those having a "substantial interest in the industry" (page 33) are most likely to be correct in their views.

It seems obvious that a man whose livelihood depends on bee-keeping *must* keep his bees healthy—or get out of the business. The commercial bee-keepers who sell queens, stocks and nuclei do, in fact, guarantee their apiaries free from "I.O.W." disease, and the bees they supply to be likewise. What methods do these men use to keep disease at bay, and why have these methods not been published in THE BRITISH BEE JOURNAL for the benefit of all? From different sources I hear that Cambridgeshire is "full of bees," and the Cambs. experts might impart the secret for the benefit of Cumberland and Westmorland bee-keepers.

The latter, at their 1920 Conference, with our Editor present, passed a resolution that "I.O.W." is incurable, and advised destruction of all affected colonies.

[There is some mistake here. We have not been so far north since 1913. Possibly Mr. Ellis refers to Mr. W. Herrod-Hempsall.—EDS.]

While admitting that diseased weaklings are not worth saving in autumn, I decline to believe that there is any need for destroying affected colonies in summer on any prospect of eradicating "I.O.W." disease in this way. There is no question of "curing" diseased individual bees during their brief lifetime, but there is no reason why an affected colony should not be *regenerated* and rejuvenated by uniting to it a nucleus of healthy bees with a young vigorous queen. I have had some correspondence with a bee-keeper who had destroyed over 300 stocks in his own apiary, and is still killing them off yearly without any prospects of mastering the disease. This bee-keeper actually destroyed his strongest colonies in early summer, and while they were storing heavily in the supers, merely because they showed signs of crawling. I should like to know what our Editor would have done under the circumstances; what Dr. Rennie would have done, and, finally, what Mr. Simmins would do in a case of this kind.—J. M. ELLIS, Gretna, Carlisle, January 28.

[What we would have done in the above case would have depended on circumstances, but we certainly should not destroy strong colonies just when they were storing surplus.—EDS.]

A Line from the Lake District

DEAR MISTER HEDITOR,—

I am sendin' my sub for t' "B.B.J." alang wetha compliments o' th' season, an' I hoop it 'll be a gud 'en for a' on us. Maybe ye wad like ta kna our dewings in 't' Lake district this Kissmas. Weel, we've hed aw max a' wedder, but maistly rain, fower feet o' watter on t' main road 'st week end, but ise sending a few flors that t' bees was warking on just afore t' new year. On t' 27 an' 28 Dec. they war warking as if 't war mid sumner. I wonder if friend Kettle hes owt like it. Maybe he will hev is sections on be noo; man bet his yarns is grand reeding, bet some foak is bad ta plase. Well, no, I hoop ye'll be able to mack this out, an' i 'll rite ye agan sean.—Kindest regards, Yours, IN T' LAKE COUNTRY.

[The above letter was accompanied by a box of flowers, including snowdrops, red and white heather, gorse, white broom, rhododendrons, and several others, for which we heartily thank our correspondent. They were disposed in jars about our office, giving it quite a bright appearance, and bringing to our mind the beautiful scenery in the Lake District. That these flowers should be in bloom so far north in early January is evidence of the mildness of the weather this winter. We shall be pleased to hear further news from "t' Lake Country," but don't give us too much dialect. Our printer's remark after setting up this letter was, "And he says he's going to write some more!"—EDS.]

British Bee-Keepers' Association.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, January 20, 1921.

Mr. W. F. Reid presided, and there were also present Miss M. D. Spillar, Sir Ernest Spencer, Messrs. C. L. M.

Eales, G. Bryden, G. Thomas, G. R. Alder, W. H. Simms, F. W. Harper, A. G. Pugh, J. B. Lamb, J. Herrod-Hempsall, G. J. Flashman. Association representatives: J. Pearman (Derby), E. Ff. Ball (Bucks), R. R. Babbage (Middlesex), F. E. Watts (Herts), E. G. Waldock (Surrey), and C. P. Jarman (Kent).

Letters of regret and inability to attend were read from Messrs. T. W. Cowan, A. J. Blakeman, and G. W. Judge.

The minutes of the previous Council meeting were read and confirmed.

The following new members were elected: Miss E. Street, Captain H. O. Morgan, Messrs. F. W. Wibberley, V. R. Butler, and Dr. W. T. Henderson.

The Huntingdonshire Association applied for affiliation, and were accepted.

The books being away for audit, no Finance Committee meeting was held.

The report for 1920 was read, amended and passed.

Arrangements were made for the annual general meeting and conversazione to be held at the Central Hall, Westminster, on Thursday, March 27, 1921.

The report on the intermediate examination was presented, the examiner reporting as follows:—

I enclose lists of the marks allocated to the various candidates who sat the intermediate examination for 1920. There was the record number of 58 entrants, and of these 56 actually sat. The figures in the table submitted will show that 42 candidates are entitled to receive the much-coveted certificate. A very considerable number of these deserve to be classed as "excellent," more indeed than the average. The thoroughness of the replies and the full and accurate knowledge displayed are pleasing features which I would like to emphasise.

A good many more would have taken about as good positions had they not handicapped themselves by an injudicious disposal of their time. Repeatedly the earlier questions were over-answered by the introduction of matter pregnant to the subject but not to the question set. As an instance, one candidate devoted seven pages to Question I. His last question had to go unanswered for want of time, and to No. IV. he gave only six lines.

Fourteen entrants failed, the percentage of passes thus being a creditable one.—D. M. Macdonald, Examiner.

It was resolved to grant certificates to the following:—

Misses E. Jamison, M. Bindley, D. Butterfield, C. Dyson, W. A. Miller-Hallett, K. M. B. Miller, M. Tait, R. Tamplin, K. P. Worsley, D. F. Welti, H. Lambert, E. Taunton, and D. Exley, Rev. M. Yate Allen, Rev. T. E. Peters, Rev. J. Butler, Messrs. R. Harris, J. Anderson, M. K. Watt, W. Sharpe, A. J. Blakeman, W. Garwell, J. Neighbour, D. Owen, R. Todd, A. F. Birch, G. R. Alder, junr., F. M. Claridge, W. Comery, J. F. Clarkson, A. H. Holman, J. J. Hogbin, R. Casson, H. E. Deacon, J. Watson Eggleston, A. W. Patton, J. L. Tickhill, W. J. Goodrich, P. J. Franklin, W. S. Laycock, H. P. Young, J. Pickston.

A very hearty vote of thanks was passed to the examiner, Mr. D. M. Macdonald, for his careful and painstaking as well as laborious work.

The report of the Exhibitions Committee on the classes to be held at the annual show at the Grocers' Exhibition at the Agricultural Hall, Islington, September 17 to 23, 1921, was presented by the Chairman and accepted.

Next meeting of the Council February 17, at 23, Bedford Street, Strand, London, W.C.2.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Legislation on Bee Disease.

[10383] I note in your issue of January 13 the secretary of one Association has written, and obtained promises from all their M.P.s to support the Bill. (*Good.*)

I think our county has done more. Our Association Council held a meeting on January 8, when our secretary was instructed to write to all our county M.P.'s, also to all our county papers, asking all bee-keepers to write to their members and to the Minister of Agriculture, as this is the only means of getting in touch with those outside our association, and those who do not take the British Bee Journal (other Associations please note). I may say I have written to our members, also to Whitehall. I have the Parliamentary Debates before me, and I have written to the member who appears to be in opposition to our Disease Bill, also to members I know outside our county, giving my experiences, and asking for their support to the Bee Disease Bill. I ask all bee-keepers to support appliance manufacturers who give us their support.—J. Pearman, 78, Longford Street, Derby.

A Plea for Legislation.

[10384] Although I have been a bee-keeper for sixteen years and a constant reader of the BRITISH BEE JOURNAL it is some years since anything from my pen appeared in the pages of the JOURNAL, and but for the fact that I feel so strongly on the question of legislation I hesitate to "put my spoke in" now. I feel the need for good legislation is so urgent that I cannot refrain from joining in the appeal to all bee-keepers to support it for all they are worth. There is a class of bee-keeper who will never take the trouble to keep his hive clean and free from infection unless *compelled* to do so by the law. Gentle persuasion is useless in these cases.

I have managed to keep my apiary free from disease for the last seven years, but what a fight it has been! And why? Because 50 per cent. of the bee-keepers in this country are too indifferent or ignorant to tackle disease.

Brother bee-keepers, get busy with those postcards for Whitehall.

I like Mr. Flashman's suggestion of a co-operative scheme of appliance manufacturing, and would certainly support such a scheme.—A. J. HOWLETT, "Sylvabelle," Tring.

Acclimatising Foreign Bees.

[10385] I would like to ask Mr. Manley how he can get an acclimatised strain of bees from a queen imported from Italy. Suppose I were to purchase a queen from that country and introduce her to a colony here, how could she (if she were a fertile queen) or her progeny be acclimatised to our cold, grey country?

It is quite possible that the *weak* drones bred of her would mate with virgin queens reared in hives of blacks which might be in the same apiary. Would this not be weakening the vitality of *our* bees?

Now if the imported queen was a virgin, and mated here with a native drone the progeny certainly would not be so strong as would be the case if the native drone had mated with a native virgin.

I have no ill-feelings towards the Italian, and I do not care what he charges for his bees.

I do not blame him for getting the best he can for his bees; it is up to us to look after our own stocks.

If he wanted bees from us at a fair price, who is the man who would not send them?

We would probably be the same as he, and say: "If you want the bees you shall have them." Live or die, what would we care, so long as we got his lira? I wish him no harm, and say to him "Viva Italia," but not "Tapi regini per gli Inglese."

As for the Northern States of America, I do not think that part of the world is on a par with this at all. They have the two extremes there, heat in summer and cold in winter.

The bees have perfect rest in winter; no flying on Christmas and New Year's Days out there, and no summers like the one we have just had.

When I spoke of the climate of the British Isles I called it *humid*. Am I correct?

I wonder how many hives of Blacks have been weakened by the so-called acclimatising of these Italians and other foreigners, and how many hives so weakened have contracted "Isle of Wight" or Acarine disease.—JOSEPH C. WOOD.

Deadly Bees.

[10386] In your issue of December 16, 1920, there is a paragraph about deadly bees.

On the mainland of Africa, just opposite Zanzibar, a small thin wasp, or bee, called Mavu, builds on our thatched roofs.

The nest is about nine cells, branching out from something that looks like a thin stick projecting about an inch from the thatch. On this the bees settle. Though the bees are so small and slender one sting produces faintness, which soon passes off. They are killed by clasping them in a thick cloth and stamping on it. —JOHN KEY (Rev.).

Smoker or Carbolic Cloth?

[10387] It is quite twenty years since I sent a few lines to your Journal, but after reading the serious mishap Mr. Ellis experienced with his smoker I cannot refrain from a few words. Why bee-keepers use smokers I cannot think. When I started, nearly thirty years ago, I used one for one season. I have never used one since. I advise Mr. Ellis not to use a sprayer, but only the carbolic cloth. Every manipulation can be done with the greatest ease and success with it. Mix 1½ ozs. of Calvert's No. 5 carbolic acid with 1½ ozs. of glycerine, shake well in a quart bottle, then fill with hot water and thoroughly shake. When cold, saturate a cloth (which is large enough to cover the frame tops), then wring out, roll it up, and as you roll off your quilt roll on this cloth. No bee should be allowed to come up, and by the time you get to the last frame you can begin manipulating where you began. This quart will most likely last you a season or two. It does me. If the damping is done in an old tin the sur-

plus can be run back into the bottle. Mr. Grimshaw and Mr. Woodward never used anything but this, and they started me all those years ago.

This last season I hived about eight swarms, and a few were in difficult places, but with two such cloths I could make them go just where I liked.

Bees in my district produced swarms and very little honey in 1920.—E. H. MATTHEWS, Hants.

[The wise bee-keeper will not be tied down to either the smoker or the carbolic cloth, but will have both handy. In our own work we find both useful. For general manipulating we generally use the smoker, but if bees are inclined to be angry a cloth used as our correspondent advises will work wonders. It is also useful when putting on and taking off supers. For keeping the bees quiet there is nothing to beat a few puffs of smoke blown in at the hive entrance. This cannot be done with a cloth, and by the time the roof and quilts have been removed, and the cloth brought into use, the bees have been disturbed and warned, with the result that they are fast issuing from the entrance to investigate matters, and will probably make things warm for the disturber before the carbolic acid has a chance to frighten and subdue them.—EDS.]

Treatment for "Isle of Wight" Disease.

[10388] The swollen bees and unsanitary condition you mention in your note to my previous letter (10335) I consider would be the result of the bees being unable to use their wings and discharge their fæces while in flight, food and breeding season might modify it.

To give you some idea how I would treat I will first give as near as I can nature's way as I saw it, and which seemed to be good. Six hives were badly affected in the spring; my hives were on a bench 3 ft. from the ground, the cripples coming out and falling to the ground. Honey was coming in from spring flowers, brood rearing going on in all the hives, sick and healthy alike, bees were increasing in numbers notwithstanding the heavy loss of sick and dying, and they eventually swarmed.

I was on hand in each case, and while watching them I noticed they had lost their queen, and saw several bees go back to the hive to hunt for her. I then began to look for her myself, and found her 4 ft. from the hive crawling on the grass unable to fly. I picked her up, put her on a stake thinking the bees would cluster around her, but they did not, and paid no attention to her whatever. The bees returned to the hive and raised another queen.

My experience with the other hives was similar to this, only most of the queens got lost in the weeds and neither me or the bees were able to find them. In every case where the queen was lost in the swarming process, and another one raised to take her place, these colonies quickly recovered from the disease; in fact, as soon as the young queen got to laying there was no disease to be seen.

I studied the matter over for some time, and came to these conclusions:—That the queen was able to go on with her egg laying although her wings might be useless, but when she was required to go with the swarm she fell to the ground like a crippled worker bee. The reason why the bees could not find her after she went out was they would hunt for her by scent, and she being diseased her odour would be repulsive instead of attractive to them.

The diseased queen being lost in the swarming process eliminated the chief centre of infection in each hive. The raising of a new queen out of the bunch of cells gave nature an opportunity to develop and select, by the survival of the fittest among them, a queen with greater resistance to the disease. Since that time I have favoured natural swarming for the reason that I consider it nature's way of an endurance and health test, and a way of eliminating effectually the diseased bees from the healthy and strong. In view of these facts, as I see them, I make this suggestion how to treat "Isle of Wight" disease.

If you have a hive showing symptoms of the disease start feeding it with pure sugar and water. Stir sugar into cold water, half and half. Encourage natural swarming; this act alone will give new vim and aid in offsetting the disease trouble by the healthy bees trying to get rid of the sick ones. If you find the bees increasing instead of decreasing keep right on till they swarm naturally. On the other hand, if they are decreasing, or at a stand still, jar the hive; get them to load up with sweets, then shake the whole bunch outside the hive on the ground and let them have time to *fly* back to the hive they came from. See that none *crawl* back. In all cases where the disease is anticipated or present, the hive should be at least 2 ft. from the ground. By this method of manipulation you will get the disease *outside* the hive, where it will do but little harm. If the queen is able to fly back let her go in, if not, let the returning bees raise a new one: in no case assist the queen back. —WM. BELSHAW, Everett, Wash., U.S.A.

On "Extracting Pure Honey and Pure English."

[10389] It is evident from B.B.J. of December 23 that the statement "Heather honey cannot be extracted," has been misunderstood. And why? Because we continue to use the term for a process it in no way describes. Any lecturer explaining that process is bound to say, "The honey is *thrown out* of the combs by centrifugal force." Why, then, not call it "thrown honey"? a word which exactly describes the fact in pure English, instead of "extracted" or "dragged out honey," which it is not. And if we must display our learning in Latin, why not call the implement the "Trajector," instead of the "Extractor," this last a word suggestive of chemical connections such as "extract of honey."

[There is a lot of difference between "Extracted Honey" and "Extract of Honey."—EDS.]

Let the influence of the B.B.J. just start the ball rolling, and the change is effected. The next generation of bee-keepers will have forgotten the absurdly inaccurate word "Extractor." To turn from pure English to pure fact.

Pure ling honey, if "caught young" so to speak, very soon after gathered and long before sealed over, can be "trajected" or "thrown." I have done so. It granulated, too, in very coarse grains. I have frequently seen pure ling honey unsealed granulated in sections. Sealed cells are not so easily observed, but I feel confident I have seen and eaten it granulated so likewise.

In my experience pressed ling honey turns to a kind of paste almost like vaseline for fineness, and only in this sense can be said not to granulate, for it certainly loses its browny-gold colour and transparency, becoming quite opaque.

I am open to conviction, but at present I do not believe there would be two straws difference in the flavour of pure ling honey gathered below and above 800 ft. alt., and I believe our Edinburgh friend confounds the product of two distinct heathers. Of course in this I may be wrong but this I know for certain, heather honey is produced in great abundance both from bell heather, which comes to bloom early in July, and from ling (*Erica vulgaris?*), which comes to bloom early in August. [Bell heather is *Erica cinerea*. Ling, *Calluna vulgaris*. — EDS.] The colour, flavour and consistency of these two is entirely distinct. Bell heather has a very bitter flavour, some people call it most delicious, some might call it "varnish." Its colour is almost port wine, and consistency perhaps the thinnest honey gathered by the honey bee. Thinner than white clover, sainfoin, lime, much thinner than sycamore, and quite as thin as red clover. Ling honey is not so bitter. Personally I would say the most delicious in the world; colour much paler, and consequently clearer than bell honey. I would call it browny-gold; and for density, it is practically a jelly rather than a liquid. Much heather honey is a mixture of these two kinds, and therefore, of course, varies greatly in colour, density and flavour, according to the proportions of each that it contains, for both are blooming together in August for a time. But there are some districts where ling grows, without bell heather. I have lived in such district, and obtained "pure ling honey" from above 800 ft. alt.

"Pure ling honey," of course I am challenged here, was it pure? I answer emphatically "yes," and with your permission, sir, will give reasons for my opinion.

Part of our early bee instruction is that a bee never mixes nectars on the same journey, but confines itself to one kind of bloom. Anyone using his eyes can verify this fact. Now, sir, would it not be the height of senselessness if the bee, carefully preserving its load of nectar pure and unmixed, were to deposit the same on arriving home in a cell containing nectar of another sort? I, for one, will not believe a bee is such a fool. Commonsense, then, would lead us to assume that the individuality of the honey is preserved as carefully inside the hive as the nectar is outside. One frequently comes across patchy sections, white in the middle—say from white clover—and dark round the outside, as finished off with later-gathered honey from a different source. But I cannot say I ever came across two kinds of honey in the same cell. Does anyone else claim to have done so? I do not believe such a thing has ever been proved.

Strong collateral evidence to buttress this idea is found in the fact that different coloured pollens are observable in different cells, showing that actually the bees do store pollen from different flowers in different cells. Supposing, then, that I am correct in the assumption that different honeys are always stored in different cells, we are 9-10ths on our way to the solution of obtaining "pure *heather* honey" at any rate, and, personally, I would be inclined to add pure white clover, pure sainfoin, etc., for I believe that one honey so exactly resembles another as to be indistinguishable to the experienced bee-keeper. Let him, then, take great care only to "throw" at one time honey of one colour, and he may be practically certain of a pure one-bloom honey, and of all the honeys ling is the

very easiest to obtain pure, for there is either nothing or next to nothing else nectar-yielding at the same time.

Now we will suppose in late August hundreds of acres of ling in full bloom. Cold or rain suddenly gives place to heat, and the delicious golden jelly piles up in the combs, and the bee-master, who is not a blind fool, puts two and two together and knows that the honey comes from the ling, free and undefiled, or else there must be some other flower that produces honey of exactly the same colour, flavour and density, which is incredible. If what is known as ling honey were a composite production, then its colour, flavour and density would vary according as the proportions of its component parts varied, and these would be bound to do so frequently, and also from year to year. But it does not do so. We know exactly every year what our ling honey is going to look like and taste like, and how dense it will be. Therefore it is pure ling. *Q. e. d.*—BUZZ.

Ill-Effects from Eating Honey.

[10390] *Re* letter No. 10369, might I suggest to Mr. D. Bateman the reason he was unable to eat honey was possibly due to the presence of poisonous honey, and not, as he supposes, due to the brimstone or sulphur, which, as everyone knows, is extensively used in medicine?

Bees which sip from the flowers of the thorn apple (*Datura Stramonium*) are said to deposit poisonous honey, and this may have been present in small traces sufficient to affect Mr. Bateman, but without any apparent affect on other people. The thorn apple is one of the herbs that are very poisonous, but valuable for medicinal purposes. It appears sometimes on dunghills and waste grounds.—H. E. NEWTON.

Aluminium for an Extractor.

[10391] The following may be of use to your questioner, A. B. Four Marks (query 9917).

Aluminium would make a very good extractor (and would in no way injure the honey), providing one has a satisfactory way of manipulating it to make good joints round the bottom and valve. The difficulty up to the present in making up aluminium is that it cannot be soldered together. It is, however very soft and ductile, and, with care, joints may be formed either by a double lap, hammered close, like tinsmith's work, or riveted, but the fixing of the valve would be a serious matter.

It would take a considerable time for the very minute quantity of acid in most honeys to attack the metal, and it certainly has the advantage that it does not oxidise in air, or combine with sulphur, though hydrochloric acid and alkalies act upon it.

I have used aluminium in various ways among honeys and wax satisfactorily, and shall be glad when it replaces the tin feeders which so quickly become dirty and rusty even with all the care one can give. —S. LEEDHAM, Bromsgrove.

Weather Report.

WESTBOURNE, December, 1920.

Rainfall, 2·68 in.
Heaviest fall, ·50 in. on 23rd.
Rain fell on 21 days.
Below average, ·81in.
Maximum temperature, 55 on 3rd.
Minimum temperature, 25 on 12th and 13th.
Minimum on grass 19 on 16th.
Frosty nights, 10.
Mean maximum, 44·5.
Mean minimum, 35·9.
Mean temperature, 40·2
Above average, 1·6
Maximum barometer, 30·377 on 16th.
Minimum barometer, 29·435 on 22nd.

L. B. BIRKETT.

Weather Report for the Year, 1920

Rainfall 28·91 in
Heaviest fall 1·08 in. on July 5th.
Rain fell on 183 days (average, 180).
Below average, 2·38.
Maximum Temperature, 78 on May 29th and June 2nd.
Minimum temperature, 20 on Jan. 7th and 8th.
Minimum on grass 16 on Jan. 7th.
Frosty nights, 40 (average 74)
Mean temperature 50·2
Above average, 1·6.
Maximum barometer, 30·710 on March 3rd.
Minimum barometer, 28·842 on March 15th

L. B. BIRKETT.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

E. D. (Kirkcudbright).—*Moving bees.*—The hives may be moved any time when the bees have been unable to fly for a fortnight or three weeks owing to cold weather. The work should be done as soon as possible. It is also advisable to place some obstruction in front of the entrance, such as a sheet of glass reared in front, or a handful of hay on the alighting board.

C. W. (Lincs.).—*Disinfecting combs.*—It is safer to burn them and use new frames and foundation. Extract any honey or syrup they may contain. Put them to soak for a few days in water, to which has been added some disinfectant. Then syringe the cells out with a garden syringe to remove the pollen. If this is not possible at the first operation, allow them to soak for another day or two and again syringe. When free from pollen, they may be

soaked in or sprayed thoroughly with a strong solution of disinfectant and water, and afterwards exposed in any airy place to dry until the smell of the disinfectant has disappeared.

"NOVICE" (Devon).—*Bees not flying.*—You can do no more at present. Send us a few of the bees that are crawling; put them in a small tin box or a matchbox. Notice the eyes; if they are drones the eyes will be large and meet at the top of the head.

R. R. (Briton Ferry).—*Honey in shallow combs.*—The little honey left after extracting has granulated It will do the bees no harm when they are put on again. It will rather be an advantage, as it will act as "bait" and attract the bees into the supers. Plain toweling will do for quilts if it is smooth, but it will not be so good as calico or ticking.

Suspected Disease.

Miss L. W. F. (Norfolk).—The bees had Acarine disease.

J. A. H. (Cheshire). T. S (Shaftesbury).—So far as we can tell the bees were not diseased.

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* **3s.** *per* ¼*in., or* **5s.** *per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on MONDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

SITTINGS OF EGGS.—White Wyandotte and White Leghorn. My 36 hens have laid over 600 eggs the past month. Eggs, 10s. dozen.—RECTOR, Melbury Abbas, Shaftesbury. 1.69

1 CWT. fine Light Honey, 28-lb. tins. What offers?—CECIL ROSE, Ashen, Clare, Suffolk. 1.72

25 PURE ITALIAN STOCKS, £5 5s. each; 15 Italian Hybrids, £5; 20 Blacks, Italian strain, £4; travelling boxes 10s. extra, returnable. Guaranteed healthy on arrival. Great satisfaction given to all customers last year.—J. YOUNGER, 6, Maid's Causeway, Cambridge. r.1.76

GOOD ENGLISH HONEY (liquid), 28-lb. and 56-lb. tins, f.o.r., £8 10s. per cwt.—W. CHANNELL, Grove Apiary, Histon, Cambs. 1.77

FOR SALE, best Lincolnshire Honey, white, in ½-cwt. tins.—E. TORY, Holbeach Hurn, Lincolnshire. 1.78

"GLEANINGS IN BEE CULTURE" for January has leading articles on "Real Apiary Management" by Morley Pettit, "Comb Honey Production" by Demuth, "Bee-keeping in Foreign Lands" by Sechrist. It is full of good things each month. Wouldn't it be worth taking?—7s. per annum from E. J. BURTT, Strond Road, Gloucester. 1.80

FOUR 20 lbs. splendid Sainfoin Honey, nice flavour, screw-cap bottles, 2s. 6d. per lb., carriage paid passenger train; boxes returnable.—A. WILLMOTT, Apiarist, Higham Ferrers, Norths. 1.75

TWO 10-framed Hives and Stocks, Extractor, Section Racks, Feeders, Wax Foundation, Skep, and Accessories, £8 10s., or offer.—WEDGWOOD, 24, Culverden Road, Balham, London. 1.79

LANTERN, oil, spare lens for photo enlargement, sheet, and set of about 60 slides.—Price and particulars, ANDREWS, 78a, Westgate, Peterborough. 1.51

SURPLUS ITALIAN STOCKS, £5; box and carriage free. Wanted, first three numbers *Bee World.*—DOUPE, Maam, Galway. 1.59

LIGHT CAMBRIDGE HONEY, guaranteed pure, 13-lb. tins, 21s. 6d.; 28-lb. tins, 45s., carriage paid.—J. YOUNGER, 6, Maid's Causeway, Cambridge. r.1.53

WANTED, for North of England, a full-time Bee Expert for re-stocking and educational apiary, also for lecturing and visiting in the county; some knowledge of practical fruit growing would be an advantage; living quarters provided.—Applications, with salary expected, to Box 4, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. r.1.56

WANTED, Stocks guaranteed pure English Black Bees.—Price, particulars, BROOKS, Winthorpe, Newark-on-Trent. 1.62

DAY-OLD PEDIGREE CHICKS, White Wyandotte, delivered in April, 25s. a dozen.—THE MISSES COATES, Broadheath, Presteigne 1.67

GOOD GLAZIER'S DIAMOND, perfect, 8s. 9d. —HUBBARD, Northkilworth, Rugby. r.1.42

EXTENSIVE BEE-KEEPER wishes to get into touch with other ex-Service bee-keeping officers and men. Will those replying please give regiment or ship, and state if disabled?—Box 2, B.B.J. Office, 23, Bedford Street, London, W.C.2. 1.32

25 PURE ITALIAN STOCKS, £5 5s. each; 15 Italian Hybrids, £5; 20 Blacks, Italian strain, £4 10s.; travelling boxes 10s. extra, returnable. Guaranteed healthy on arrival. Great satisfaction given to all customers last year.—J. YOUNGER, 6, Maid's Causeway, Cambridge. r.1.26

ONE-THIRD ACRE, Freehold, six miles Southend, Essex, good honey district, £25.—Write, ROSS, Strethall, Essex. r.1.31

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

BUSINESS ADVERTISEMENTS.
1½d. per word.

IMPORTED ITALIAN QUEENS FOR 1921.—List on application.—PEARSON & GALE, Marlborough. r.k.88

"LET THE BEES TELL YOU," 3rd edition, 2s. 6d. paper, 4s. cloth.—S. H. SMITH, 30, Maid's Causeway, Cambridge. 1.73

A FEW QUEENS AND NUCLEI of my "Shrinewood" Bees to spare, early summer; Queen, 12s. 6d.; Virgin, 5s.; 3-frame Nucleus, £2 15s. Twelve months' guarantee of freedom from "I.O.W." disease with each nucleus.—PETTIPHER, Shrinewood, Dolgarrog, North Wales. r.1.81

Our Bees and Queens are Second to None. Catalogue free. PEARSON & GALE, Marlborough

500 WELL-MADE BROOD FRAMES, top bar 17 x ⅞ x ⅜, with W.B.C. ends, moulded comb foundation (about seven sheets to the lb.), as successfully used by myself for many years, made from guaranteed pure beeswax, wired in by my latest method, the wires being moulded in the wax; guaranteed bees do draw the foundation well; will sell for 1s. 2d. each, carriage forward, packing moderate, according to number required, or 1 dozen lots 16s., carriage paid; cash with order.—A. J. RIDLEY, Apiarian, etc., Horney Common, Uckfield, Sussex. 1.70

1921 HIVES AND APPLIANCES.—Write for list to ANDREWS & CO., Hive Works, 78A, Westgate, Peterborough. Quality the best. Immediate delivery. r.l.71

STRICTLY BUSINESS.—Flavine Bee Candy, 6 lbs. 9s., post paid. Price Lists of Cambs. Bee Stocks and Italian Queen Bees by return.—S. H. SMITH, 30, Maid's Causeway, Cambridge. 1.74

FIRST CROSS Wyandotte-Leghorn Chicks, three weeks old, 1s. 6d. each. White Wyandotte Eggs, 7s. 6d. for 13; White Leghorns, 288-egg strain, same price.—WELCH, Wickham, Hants.—

BOOK NOW!—I still have a few Stocks for disposal. Pure Italian, 8 frames, £5; 3-frame Nuclei, May and June, £2 10s.; disease free; cash with order.—N. WILKINSON, Farnham, Saxmundham, Suffolk. r.l.37

ITALIAN QUEENS, young, fertile, purely mated, disease free; safe arrival guaranteed. Price list on application.—GAETANO PIANA, Castel San Pietro, Emilia, Italy. r.l.83

ENSURE A GOOD HONEY CROP this year by purchasing one of our noted 6-frame Italian Stocks. Illustrated Catalogue free on application. —PEARSON & GALE, Marlborough. 1.16

BOOK NOW.—Pure Italian. Early Swarms, May and June, £2, plus carriage; 3-frame Nuclei, May and June, £2 10s.; a few Stocks, 8 frames, £5. Guaranteed free of disease. Cash with order. —N. WILKINSON, Farnham, Saxmundham, Suffolk. r.l.37

BEES AND QUEENS FOR 1921.—Send for our new Illustrated Catalogue, free on application.—PEARSON & GALE, Marlborough. 1.15

"W.S." STOCKS at nucleus rate, and Nuclei greatly reduced for 1921.—S. SIMMINS, Queenland, Heathfield, Sussex.

DON'T BUY BEES until you have seen our prices and guarantee. You risk nothing, as we return money in full if bees fail to give complete satisfaction. Illustrated Catalogue free on application.—PEARSON & GALE, Marlborough. 1.17

"WIGHT" DISEASE.—Prevention and removal. Advice 5s.—ALF. RYALL, Cottage Farm, near Camp, Stroud. r.k.143

IMPORTANT!—In spite of the increased cost of appliances and carriage, we are offering our celebrated 6-frame Stocks at reduced prices. Catalogue free on application.—PEARSON & GALE, Marlborough. 1.14

MASHEATH HIVES are made by their designer and originator, M. ATKINSON, The Bee Park, Fakenham, who will be pleased to reply to all inquires. r.k.141

ITALIAN QUEENS direct from Italy.—Address, ENRICO PENNA, Bologna, Italy. Price List for 1921 on application. r.k.121

SECRETARIES of Bee Associations requiring Italian Queens at wholesale prices are requested to write to Box 3, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2, when they will hear something to their advantage. r.l.39

£250 per annum,

Offered as Half-share in old established Bee business.—Particulars, "A1," c/o British Bee Journal.

Vigorous & Prolific American-Italian Strain.

Specially selected for working qualities and gentleness, these can usually be manipulated without the use of smoke or veil. Docility guaranteed.

Strong stocks for Honey production in 1921.

Limited number for delivery in April to June.

Can be supplied in hives if des red.

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DUTCH BEES.

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24 pages original matter describing these hardiest of all Bees.

Informative, Suggestive, Unique.

The notes on Queens and Queen Rearing should be read by all who value disease-resisting st ck.

Read my way of managing Bees profitably.

Free for the asking—

R. WHYTE,
Bee Farm, Cumbernauld,
DUMBARTONSHIRE.

Sole Agent for HANS MATTHES, the Dutch Bee Farmer, who supplied the Ministry of Agriculture for re-stocking.

THE
British Bee-Keepers' Association.

The recognised centre of practical and scientific bee-keeping in Great Britain. Particulars and conditions of membership may be obtained from the Secretary,

W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

A Fortune from 'White Star' Bees!

A client, after using "White Star" (30 years' line-bred) Pedigree Queens, says they are going to make his fortune! Another, a lady, who purchased a "White Star" nucleus, cleared over £40 in actual cash the second year from the original investment (800 per cent.). Full particulars in the Queenland List.

Safe arrival of queens and nuclei guaranteed, and carriage paid. Should any queen be lost from a nucleus within three weeks from delivery, we guarantee to send another. Every queen is warranted for six months trial, and 1921 reared.

THE SECRET OF RAPID INCREASE

(continued.)

As far as possible all candy is removed, and all syrup feeding completed by October 20. The state of the weather has little influence upon the progress of the nuclei while thus developing, if only the bees can have a few hours occasionally for collecting pollen, which during October is usually obtained in large quantities from the wild and other ivies.

The whole process of rapid brood development (with suitable queens) has been founded upon Simmins' plumping method, instituted many years since, and fully explained in his "A Modern Bee Farm," where it is shown that "brood makes brood," and the process is as constant as that of milking a good cow all the time power is maintained by a constant supply of food, whether natural or artificially supplied by the correct method.

"I beg to acknowledge receipt of the 'White Star' Nucleus, and thank you for sending such a very fine lot. Already they are making good progress, and are on seven combs." W. C.

July 3, 1920.

Would I disturb a normal full stock in this way in the autumn? I certainly would not unless I was very short of stock, and then it would be necessary to remove most of their combs and cause them to develop brood while extending shallow sheets of foundation. Such should be fed up rapidly by the middle of September (on their own combs) and left to settle down for winter.

PREVIOUS YEAR QUEENS DO LIKEWISE.

The foregoing illustrates what can be done with young White Star queens in making stocks from an almost hopeless foundation in late autumn; but how about queens that have been used all through the summer at high pressure from May to August, completely filling new foundation combs with brood, laying eggs night and day without cessation during the whole period; the brood being removed in solid slabs, three or four at a time, and replaced by fresh sheets of foundation to be immediately worked out and filled again, and so on in rotation as the brood matures.

Yes, these queens of the previous year had been given no rest, not for a day, not even for an hour. Would you expect these to work up an entirely new stock after being finally reduced to barely two combs of bees, all brood and the bulk of the bees being at last sent away?

You would not expect such an adventure from ordinary queens, but these were the premier White Star breeders. Nearly the end of August, and, with autumn approaching, nothing would be more natural than that these depleted stocks, having no brood left to encourage a high temperature, would be only too ready to shrink into a small cluster and await whatever fate winter had in store for them—probably extinction.

But I make it a rule to bring in no condemned bees, and rarely buy any of any kind. The queens were too valuable to lose, so once again they were started on the road to do the supposed impossible.

"The 'White Star' Nucleus, received in June, now occupy forty Standard frames. They have exceeded anything I believed possible. I have never had anything like them, and if the other queens turn out as well I consider my fortune made. I could easily have made fifteen stocks of this nucleus if I had enough queens." J. J.

Llancarfan, August 21.

The process was very much the same as with the young queens already described. At first they were not hurried, but fed slowly (from the end of August) until two small patches of brood were capped; then the candy was added to the syrup feeding, and the inevitable shallow sheet of foundation was given between the two combs with brood.

(To be continued.)

Stocks at Nucleus Rate; Nuclei greatly reduced for 1921. S. SIMMINS, Queenland, Heathfield, Sussex.

The Progress of Legislation.

We have pleasure in recording the wide satisfaction (expressed in communications reaching us) of the rank and file of bee-keepers at the Ministry of Agriculture's efforts to ensure the good-will of the craft in administering the coming "Bee Diseases Act." During periods of organisation, or apparent respite, the Ministry have never been idle, but have been diverting their attention from administrative matters to technical questions, and sounding the views of *all* sections of bee-keepers with the sole aim of making legislation on bee diseases in this country the best possible model of perfection.

Those who are best qualified to judge on the framing of Bills agree that a simple elastic Bill based on the "Order" system is the most adaptable to changing circumstances. This does not mean that there is any Bill or Act in existence that cannot be advantageously amplified. Better still is to have it in a frame suitable for adaptation to different circumstances, and no reasonable person could possibly suggest that a representative Advisory Committee guiding the administration of such Act would give their sanction to any Order that would tend towards the retrogression instead of the advancement of the craft.

The all-embracing character of the Bee Advisory Committee which the Government decided to set up in fulfilment of their promise to the craft is an indication of a broad-minded policy which gives us the utmost satisfaction. Our readers who are very anxious to see that legislation should be introduced in the very near future should have no doubt whatever that the Ministry are doing their utmost to fulfil in the shortest possible time the overwhelming desire of the craft, in spite of the financial handicaps which have forced the Government to retrench in even more important measures f education, for education in bee craft is one of the aims of the Bee Diseases Bill.

We are proud of the fact that our pages have been open for all sections of bee-keepers to ventilate their views on this important question, and by their characteristic methods of arguments the opposition have shown what they are worth, and we have not been the losers by allowing them the utmost freedom of expression. By so doing they have fully exposed their real aims and their real fears, and both are a strong argument in favour of legislation.

LEGISLATION AND THE IMPORTATION OF BEES.

Several correspondents have written to ask if, under the proposed Bee Diseases Bill, the Government intend to prohibit the importation of queens from other countries.

Under clause one of the Bill the Government *may* do so if they think it necessary. Not to have this proviso would be to very seriously impair the usefulness of the Bill. The importation of bees or queens will not be prohibited except from countries or districts where some infectious bee disease is prevalent. Of what use would it be to take measures in this country for the suppression of bee diseases and allow queens or bees—and queens cannot be sent without attendant workers—*from disease-infested areas to be imported and become fresh centres of infection?* Could there be a more absurd proposition?

For all the absurdity—and stupidity—of such a notion, we have it on good authority that the opponents of legislation have circularised a number of queen bee importers and breeders asking for their support in opposing legislation because if the Bill is passed the importation of queens from abroad is to be prohibited. We can only suppose that any importers who oppose legislation for that reason are quite willing to import and distribute queens even if they are bred in countries, districts, or even apiaries where some infectious bee disease is prevalent, and we shall be very pleased to publish the name of any queen importer opposing legislation on those grounds, so that our readers may be warned and know whom to avoid.

The Government itself took all precaution before importing either bees or queens for their re-stocking scheme, to ensure that these came not only from countries free from disease, but from disease-free apiaries, by sending their expert adviser over to both Holland and Italy to inspect the bees and apiaries. Every stock of bees that came from Holland for the Government was examined by their expert, and he has visited the apiaries in Italy from which queens are bought by the Government, and also those of other well-known queen breeders, all the apiaries examined being found free from disease.

The statement that the importation of all queens will be at once stopped if the Bill becomes law is only another of the prevarications and subtle insinuations of some of the opponents of legislation.

Jottings from Huntingdonshire

February is here and has brought its gorgeous sunrises and more gorgeous sunsets. There is fascination in watching both from a given point and noting day by day how Old Sol edges further east each morning and further west each evening, stretching out the daylight and shortening the night. He bids the bees come forth and they readily, sometimes too readily, obey his call. This morning, before he had scarcely changed his colour from red to gold, the Italians were astir, winging their way o'er field and coppice, emitting a delightful hum as they shot away to some modest flower, sipping the dew drops, yet scolding because the pollen was too wet. The yew trees are in full bloom, but one scarcely sees a bee exploring their myriad blossoms, yet the pollen dust on these trees is large in quantity. Shake a branch and you will be smothered with fine yellow powder. Pollen is beginning to get plentiful—the celandines, or, to be correct, the lesser celandines, unable to resist the warmth of the sun, are carpeting banks and meadow corners with their bright yellow flowers, and even the marsh marigold is getting ready to eclipse the celandine in size and beauty. Here and there the wild chervil is pushing forth premature and undeveloped blooms. Needless to say our garden enemy, the red dead nettle, has been flowering all the winter, and there is nectar to be found in its flowers.

The elm branches are never so beautiful as now when every twig is covered with buds, so graceful in their beauty. As for the hornbeams, so plentiful hereabouts, their branches and twigs look entrancing in the sunlight, and the bees go frequently to examine their buds. A single tree may have twenty thousand flowers, but not one will escape the vigilant eye of apis and her host of sisters. Elm flowers may be richer in nectar and colour than those of the hornbeam, but in naught else is the hornbeam eclipsed. Its grey flattened tapering boles stand forth in striking contrast to the dark, gnarled, often angry-looking boles of the elms. Dear me, Mr. Editor, my pen rambles on 'midst flowers and trees. I did mean to write a technical article this week; but alas! for me, the call of Nature is so strong, and two letters have just arrived both from single hivers, one in the north and the other in the west, bidding me help them to learn to love the country through the medium of these jottings and as I go forth the songs of the birds mingled with the hum of the bees is irresistible. What would such readers think if I dropped into—or will some say rose up to—purely technical language? Let me write a line or two—how will it look in print? *Apis mellifica* should be domiciled in what Virgil called an alveus. Mundilia (cleanliness) is essential to successful bee-keepers. A tiro (beginner) should therefore see that his alveus is prorsus (quite clean). He should also exercise intelligent care when planting his garden, as many vegetables bear flowers which attract the bees. Among these are *Brassica rapa, Raphanus sations, Alluim cepa, Cucusbita orifera, Brassica oleracea capitata, Dacus careta hortensis, Brassica oleracea bullata gemmifera, Latuca sativa. Pisum saturim*, and many others. He could profitably fill up spare corners with *Spilobium montanum*, and if he can sink a tub or two he need not discard a few plants of *Castalia alba.*

This will do for one week, and as far as I am concerned for one year. I hope our technical friends will pardon the humour. My temperature, I am sure, has dropped a degree through writing these last few lines. To get back to normal. I must close this jottings and go out among the daisies and the dandelions, and watch the golden banded and the dark-striped honey flies flit from flower to flower; but I must be quick, or the daisies will have closed their flower heads, and the dandelions will follow suit, and when dandelion and daisy go to sleep the bees take the hint and scuttle off home to join the clusters in their several hives; one or two will possibly call on the aconites, the crocuses, and the arabes as they pass over the garden, but only to take a last dip before turning in. The partridges are mating, and the cock blackbirds are twitting to the hens—what care they of calendars!—it may be February, but the smell of spring is in the air, and the hedges and trees are preparing to offer nesting places for the songsters who give us so much music just now. The wind has changed since I began writing; possibly therefore we shall have a frost to-night, or a little fog in the morning. In which case the medical advisers in the hives will approach the entrance, test the atmosphere, and turn back and forbid any bee to go forth until the sun has dispelled both fog and cold.—E. F. Hemming, Steeple Gidding.

A Dorset Yarn.

We are sorry Mr. Kettle's yarn has been lost in the post, the empty wrapper only was received at our office on Monday.

Heather Honey.

After seeing so much interest taken in the above subject following the naturally condensed report of my lecture, I should like permission to reply to some of the queries, and also supplement the report with some particulars I gave, but which did not appear in THE BRITISH BEE JOURNAL.

Replying to friend Harmer, in my remarks I pointed out that it was really necessary that preparations for the heather should be made a considerable time in advance of the time of taking the bees to the moors. Also that it was unreasonable to expect good results from any but young queens. The latter should have been introduced at least three weeks before dispatch.

Queens that had already gone through one ordinary breeding season were usually fagged and required a rest. Therefore where such queens headed stocks very little surplus ever got into the supers, as the empty brood cells were too great a temptation for the bees to resist.

Such stocks therefore came back from the moors with a big percentage of old worn-out bees which would soon die, and this would eventually mean a dwindling stock in the spring.

An equally important point is the necessity of providing the bees with *plenty of worked-out comb* in the supers, as it is not only unnatural for bees to build comb at this season, but the days are getting shorter, and the nights very much colder than earlier in the summer.

The strongest criticism appears to be on my assertion that *pure* heather honey never granulates, and I am greatly obliged to Mr. Berry and others for their remarks.

Perhaps the most correct way would be to put it that "a pure sample of heather honey never granulates by itself."

At my lecture I had four samples in 1-oz. phials, gathered in different years. Three had crystals of granulation in them, while one was quite free.

These samples have been taken by myself, gathered from heather each year in the same locality. The question therefore arises, "why is it that one has not granulated while the others have?"

Most heather men know that comb heather honey will keep free from crystals longer than any other kind of comb honey. They also know that in some cells a very coarse granulation takes place, while in others the honey retains its gelatinous nature. I am convinced, after many years' consideration on the point, that the granules are gathered from other sources than the *common ling*.

Therefore my experience and my views coincidently agree with those held by Mr. W. Herrod-Hempsall.

Now, what of my granulated samples of pressed heather honey? In my three samples each one possesses a different granulation—one very coarse, another rather fine, while the other has very few granules in it.

To explain to my readers my views on this, I must take them back to the honeys gathered earlier in the season, all of which I believe will usually granulate very quickly after extracting, and some even in the comb, if it is not extracted soon after the bees store it. I believe the quickest to do so is that from charlock, next to which I place hawthorn, while clover is usually very slow to granulate, and in some seasons if required in this condition it has to be hastened by stirring into it some granulated honey. Granulation can also be obtained by exposing it alternately to a varying change of temperature, which we all know has great effect on the granulation of most honeys. The introduction of samples of granulated honey to hasten granulation in clover honey gives me my cue for replying to the question of granulation in heather honey.

Therefore, while a *pure* sample of heather honey by itself—which I admit is very difficult to get in some seasons—will not granulate, it is possible to set up partial granulation by a mixture of honey of a granulating character gathered from such flowers as are in bloom at the same time as the ling.

Again, this process is undoubtedly accelerated by the usual method of pressing from the comb. These remarks will therefore explain the various stages of granulation found in ordinary heather honey both in comb and pressed in the different seasons.

It will not, as Mr. Berry seems to imply, make against the sale, but easily explains to curious customers the different features that good saleable heather honey exhibits in different years.

The question of altitude in my experience does not always apply, for while some Scotsmen claim that a high altitude is not attainable anywhere outside Scotland, there are many districts where good heather honey can be obtained at low altitudes if the subsoil is of the right kind and if it possesses good drainage.

The common ling found on low-lying moorlands does not usually yield sufficient nectar to attract bees. At least, this is my experience. J. PRICE, Stafford.

Obituary.

It is with deep regret that I have to record the death of Mr. John Vaughan Thomas, Penrock, Llansadwrn, Carmarthenshire, which occurred on January 16 last at the early age of 31 years. Deceased, who had been in failing health for the last two years, was a victim of the "Great White Plague" — the "I.O.W." disease of the human race. During the war Mr. Thomas fought for his country on the Western front, and his name appeared in the BEE-KEEPERS' RECORD "Roll of Honour." Unfortunately his weak constitution was not equal to the strain, and his health broke down. Mr. Thomas was an enthusiastic bee-keeper, and kept with success both natives and Italians. His remains were laid to rest on January 21. He leaves a widow, three children, a brother, and numerous other relatives to mourn their loss. May his good ashes rest in peace. —RICHARD DANIELS, Pantycrwys.

Notes on the Coming Season.

This mild weather seems to agree with bees if they are kept dry and warm, though I would prefer a cold winter, which we have not yet had for three years. I re-queened my colonies before the autumn breeding, and was pleased with the results of much brood rearing and young bees flying before September. I was thus able to pack down a large quantity of young bees.

There is one note I should like to make. Hives are turned out with an abomination called a "cone" in front of the roof. This is the cause of robbers, earwigs and moths entering, also damp when the rain splashes up against it. It is a favourite entrance for wasps. Take these off and put a piece of fine perforated zinc instead. I found this idea on a large Cowan hive, which is excellent, the holes being at the *sides* and protected by the overhang of the roof. I saw stocks eaten out by wasps near my house, and robber bees came over trying to get into the hives. I found them, also wasps, getting through these cones, and getting at the feeder, and I soon had them out. I fancy by the look of things the season coming will be good if frost keeps off the new buds of fruit, etc.—C. TREDCROFT.

Errata.

We regret that several errors occurred in printing the JOURNAL last week. Will our readers please note the date of the B.B.K.A. annual general meeting is March 17, not the 27th as printed.

In letter 10,389, page 48, second column, and the seventh line from the bottom "one honey" should be "no honey," and on page 49, first column and eleventh line, "free and undefiled" should be "pure and undefiled."

Glasgow and District Bee-Keepers' Association.

A general meeting of the Glasgow and District Bee-keepers' Association was held, February 2, for the purpose of considering the Bee Disease Bill. After full consideration the following resolution was unanimously passed:—

"We, the Glasgow and District Bee-keepers' Association, urgently protest against the Bee Disease Bill for the following reasons:—

1. The absence of sufficient knowledge of preventive or remedial measures to deal with disease in existence.

2. The consequent non-existence of qualified inspectors.

3. The impossibility of just and reasonable administration on account of the said non-existence of qualified inspectors.

4. The considerable expenditure of public funds without any reasonable hope of increase of the industry.

It was further agreed to forward a copy of the resolution to the Minister of Agriculture.

Monmouthshire Bee-Keepers' Association.

The annual general meeting is to be held at the Wrenford Memorial Hall, Newport, at 3 p.m., on Saturday, February 12, 1921. Followed by tea and a lecture on bee-keeping. All interested are heartily invited to attend.

Brood Control and Surplus.

From time to time there have been vague hints thrown out that all the bad success of the past two seasons was not entirely due to the unfavourable weather. A good deal of it, in the opinion of the writers, might be attributable to the country having been re-stocked with the wrong kind of bees.

In a way that was true, but not in the sense intended. There is no better all-round bee than a well-bred, carefully selected strain of Italians. That has been proved in America. And even if it were not true, there can be no question of displacing the Italians and returning to natives until the scientists have both correctly diagnosed the supreme disease, and furnished us with a certain remedy.

The trouble, if trouble there be, is with the bee-keeper rather than with the bees. The country has certainly been stocked

with the wrong kind of bee, in the sense that it is a bee that our bee-keepers have not yet learned to handle. The old leave-'em-alone method often gave quite good results with natives, because their limited brood did not consume all the store gathered in an average season.

With Italians, happy-go-lucky methods will not work. They have all the defects of their good qualities. Early in the season they will raise a tremendous population, thus fulfilling the prime requisite for the ingathering of an immense harvest.

But the matter does not end here. Left alone, they will proceed so to multiply that population that every ounce of nectar gathered will be required to feed it. Before this can happen the bee-master must justify his claim to the title by cutting in, and switching the whole force from the rearing of brood to the gathering of honey.

This is done by checking the production of brood in one or other of several well-known ways. I shall mention only a few of these, which I have tested myself, and give some account of my success or failure with them. The whole subject is much better understood in America, where the Italians have been established in force for a great many years.

(1) De-queening the stocks at the beginning of the honey flow.

This is the method referred to at the Conversazione, as practised at one of the large apiaries in Italy. It is also a well-known American method, though not now so much in vogue there as formerly. It is perhaps the very worst method of checking the brood. A stock which has been deprived of its queen for any length of time often goes to pieces; and in nearly every instance in which I have tried it, the bees have either ceased to store surplus altogether, or at a very seriously diminished rate.

(2) Caging the queen on one of the combs during the flow.

This is also an American method, and, on the whole, answers better than de-queening. There is always a laying mother in the hive, and this holds the bees well together. The prospect of having plenty of brood soon is never lost, for there is a possibilty of releasing the queen by burrowing under the cage, and so there is plenty of inducement to continue the storing of nectar.

There is a drawback to this plan too. An element of cruelty is involved in keeping a laying queen confined in a small space for a long time, and it generally results in ruining the queen. Every farmer knows what would happen if he suddenly limited the production of one of his cows in full milk; and much the same thing must happen to a queen which is suddenly "held up" when breeding at full power. I have myself seen a queen confined in a cage much larger than those in general use, that had gone over every cell so often, in order to relieve herself of ova, that all the cells were bristling with eggs.

(To be continued.)

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Comments from York.

[10392] As you are asking bee-keepers to send their "tit-bits," perhaps the following may be of interest to others.

Bees deserting hives.—I have five stocks of bees now in my back yard, which is about 9 ft. square, so they are rather bunched together, two atop of each other and one facing them: not an enviable place, but the bees and I have to make the best of it in these bad days, and hope for something better to turn up for us. At any rate, I have great opportunity of observing them. Last winter I had one strong stock and three weaker ones, and the weak ones had a quantity of unsealed stores. About the middle of December two of them started to leave their hives: they would come out and fly straight away and not come back. Their abdomens were swollen, and it seemed to be dysentery. They would come out when it was freezing, and night-time also, as I could hear them fly, and of course in the morning I found a lot dead outside, as when they flew out at night they would hit against something, and then the cold would get them before they could get away. But in the daytime they would fly straight out and very few fall in front of hives. I have counted as many as six come out of one hive in a minute. Now if they had been in a garden with vegetation around one would not notice the dead bees about near the hives so much, and the rains would wash them away. The finish was in March. One lot had about half a cupful of dead bees with the queen on the floor, and the other had a about a cupful of live bees and queen between two combs. I shook

some bees from the strong stock and managed to save the queen, and they built up by the end of the season. Does that explain bees deserting hives in winter?

[Yes, it is one explanation. So far as our experience goes, the unrest and dysentery among bees during the winter is one of the symptoms of disease. We have noticed that the colonies where these symptoms prevailed were almost invariably dead by early spring. Our correspondent was fortunate in saving his. —EDS.]

Drones refused admittance.—I can fully endorse what Rev. Hemming said. Last season I had five nuclei, and one full stock. The stock had normal drones, and one nucleus had a comb of drone brood in worker cells, which the bees reared before I killed the queen. The other three had no drones. Now when one of those small drones tried to enter the strong stock they were seized by the workers and driven off, the same when one of the big drones tried to get in the nucleus. They were pounced on by the workers and driven off, one or two bullied in with a couple of workers hanging to them, and what happened afterwards I could not see. A queenless nucleus would also seize hold of spare drones and harass them. I killed as many as I could of those small drones; of course, I think the scent of the drones has a lot to do with it. At the same time, I found different drones in every hive at the end of the season, so they did get in.

Balling queens.—One of my nuclei swarmed on account of manipulation, and enticed another nucleus to swarm. I caught one lot and put them back: the other I lost, so I had to shake some bees in to look after the brood. About an hour after returning the swarm, I saw the bees running about, so I looked in and found the queen being balled. I caged her, and let her loose next day. She caught hold of a worker, and then all the bees rushed at her, and had her in a ball again. I caged her again for forty-eight hours, and then let her loose. The same thing happened again. She seized hold of a worker as soon as she was out, and she was balled again. I then caged her and put her in the other nucleus. At the end of twenty-four hours I let her loose, and I thought she was all right and accepted, but about an hour after saw the bees running, looked, and she was in a ball. I caged her again for forty-eight hours, and when I let her loose she seized a bee and was balled again. I then kept her in my pocket for about three hours, and ran her in under a corner of the quilt where there were no bees, but next day she was thrown out dead. That queen was twelve months old, and she asked to die. Why, and is it the queens who decide their own fate? —T. S. P., York, January 9, 1921.

—[There is no doubt the successful introduction of queens depends very much on the attitude of the queens to the workers. We have seen a virgin just emerged from a cell tackle and kill the first worker she met when put on a comb. It was done so quickly there was no chance to save the worker, and we were only just in time to rescue a second one.—EDS.]

Appliance Manufacturers and Legislation.

[10393] *Re* (10371), page 23, BRITISH BEE JOURNAL, I know of no law which prevents a person from criticising the methods adopted by the trade in any industry in this country. Neither was I aware that manufacturers are the sole judges of their actions, and that therefore anything they choose to do *must* be right.

Now for the alleged *gross misrepresentation of facts.* Let us take the letter sent out by Messrs. Taylor convening the Charing Cross secret meeting. In the first sentence we find: "I write to ask if you would be so very good as to attend a *small*, informal conference?" The italics are mine. In the next paragraph we have, "the opposition which is alleged to be entertained by the *large* majority, etc." Why a *small* conference of a *large* majority? If the latter statement is correct, surely it would be possible to have a *large* conference and so swamp those in favour of the Bill.

In the same paragraph "*constructive modifications or alteration*" are asked for, although from the time of that meeting to the writing of this letter some weeks have elapsed, yet has any one seen the constructive modifications or alternatives drawn up at that meeting? No, that is not the idea of those who were responsible for the calling of that meeting; free, full, and frank discussion with bee-keepers is the very thing they wish to avoid. Their desire is for the whole of the industry to be dictated to by a small coterie in secret, each with his own particular axe to grind.

I say deliberately that the meeting was called with the sole object of stopping legislation of any kind. If I am wrong then it is up to Mr. Lordan to prove the contrary by the publication of its proceedings.

Mr. Lordan is no doubt aware that sneering tactics are generally adopted by those who have been hit by truthful statements in a sore spot. At any rate, I have no *personal interests*, but am deeply concerned with the welfare of the craft in general. Like a good many others I have contributed my gratuitous share of work

for the advancement of bee-keeping. Can Mr. Lordan and his friends say the same?

If to side-step by saying "we are in favour of the principle of legislation, but against the present Bill," is not running with the hare and hunting with the hounds, then my vision must be bad, and to rectify it commend me to an optician who can provide glasses that will enable me to see through mud as clearly as I can through water.

My attainments may not be great, but I am content to work in my humble way for the benefit of bees and bee-keepers. I can quite understand Mr. Lordan's ignorance of my existence, as I have never found it necessary to cry it from the house tops that "I am the largest firm in EUROPE," in case people might not be aware of the fact (?) neither am I piqued that I was not called to his secret conclave, but have obtained considerable information and knowledge in my perambulations for many years amongst bee-keepers.

Since my letter to THE BRITISH BEE JOURNAL the postman has made continuous visits to my humble little cottage, and has brought many letters that contain much information, which has astonished me, as it will others when the time for its publication arrives. They also prove that there are traitors in every camp—even that of the opposition.

In the meantime let me act as counsel and put Mr. Lordan in the witness box to answer the following questions :—

1. Which is the most reliable evidence as to the views of bee-keepers—A firm with thirty-five years' experience (see Robert Lee's letter in BRITISH BEE JOURNAL, page 11, January 13, 1921), or a firm whose present members' experience of bee matters extends over about as many weeks?

2. Is it true that the *many quarters* from which his firm were approached to oppose the present Bill does not exceed *six persons?* If not, number and names please.

3. That not more than twenty letters of invitation were sent out for the Charing Cross meeting, and that most of those names were suggested by a person not a member of the firm of Taylor?

4. That the meeting was called with the definite object of stopping legislation of any kind. That a deputation went from the meeting to the Ministry of Agriculture with the object of getting the Bill stopped?

5. That it was a secret conclave. If not, why has no report of the proceedings been published?

6. That the number attending the meeting did not exceed 15, and out of that number some had no bees at all; and several others had not even seen inside a bee-hive twelve months before?

7. In view of the above suggestions, if if he considers the meeting a fair representation of the *many quarters* from which his firm were approached with a view to organising opposition to the Bee Diseases Bill?

8. How many other appliance manufacturers were either invited or attended the Charing Cross meeting?

An answer to these questions will probably clear the situation, and make it unnecessary for me to ask further pertinent questions suggested by the mass of correspondence I have received.—G. JAMES FLASHMAN.

The Bee Diseases Bill.

[10394] May I be allowed space to correct a misstatement which has appeared first in report of proceedings in the House of Commons in reply to questions in December; second, in Mr. G. James Flashman's letter in the "B.B.J." of January 6; and third, in an extract from the Ministry of Agriculture's Weekly Service, in the current issue of the "B.B.J."

The statement says that at the February Conference, a vote of 99 to 1 was given in favour of "such legislation as is now proposed," and that the Conference gave an overwhelming vote in favour of the present Bill.

If reference is made to the official report of that Conference (p. 124 of the "B.B.J." for March 11), it will be seen that the Chairman said, the words that I have written down are, "That it is desirable in the national interest to introduce legislation to control the spread of diseases in bees." This was the only resolution before the meeting, and was voted upon, resulting in a majority of 99. It is perfectly obvious that no vote was given in favour of the present Bill, and owing to these erroneous statements, many of us who voted for the *principles of legislation* are placed in the false position of having voted for the Bill, and are are now fighting against it.—GILBERT BARRATT.

[A reference to the report of the Conference, at which we were present, published in our papers, will show that the first resolution, passed by 99 to 1, is as stated by Mr. Barratt, but he is in error when he says "that no vote was given in favour of the present Bill. As the Chairman, Dr. Keeble, pointed out at the time, it was obviously of no use discussing the Bill unless there was shown to be a desire for legislation. After that resolution was passed the Bill was discussed clause by clause, and passed after such alterations as were suggested had been

agreed to by the meeting. One new clause was passed unanimously, viz., that all bee-keepers should be registered, and Dr. Keeble promised he would advise it being incorporated in the Bill. We are sorry to see that for some unexplained reason it was omitted from the Bill presented in the House of Lords.—EDS.]

The Production of Heather Honey.

[10395] With reference to the Editor's Notes on page 622, would Mr. Herrod-Hempsall kindly say whether the heathey honey was in sections or extracted, and if it was kept in a cold or ordinary place when it did not granulate? I had some years ago flower honey which did not granulate, but the reason of that was it was kept in a press between a kitchen and parlour, the fireplaces and chimneys being in the same gable. The press had an even mild temperature in summer time from the kitchen and in winter from the parlour and kitchen.

I had also some flower honey in a cold position for a number of years which only after a considerable time showed granules, but very sparingly. This not granulating was caused by overheating. I overheated it specially as a test to see if it would granulate.

It would be interesting to have the opinion of some of your readers in connection with the quality, or depreciation, of granulated honey. I find in my tests it depreciates in flavour and aroma with age, whether granulated or not. I have heard some bee-keepers say that it improved with candying. I find it does not.—AN ABLE BEE.

The honey referred to is extracted.—EDS.]

Carniolan Bees.

[10396] I should be glad if any of your correspondents would be kind enough to give their experiences with "Carniolans," also any hints that may be of service in dealing with them. I understand that they have the swarming fever to rather a marked degree, but if given plenty of room in advance this is to a large extent modified. Have any of your readers had experience of this?

I am only a beginner in the craft, and commenced last season with a stock of Italians, which I have hopes of wintering well. Next season I intend to make up another stock and queen with a "Carniolan."

While writing I should like to thank you for your extremely interesting paper, which I find very helpful. Also I should like to express my appreciation of those splendid articles which some have criticised as "alien." Let us hope that the writers of these bright and cheery letters will not take any notice of the grousers, as we cannot afford to lose contributions which cover subjects so interesting and closely allied to the real bee lover.—"INTERESTED," December 23, 1920.

Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.

Making a Bee Garden, etc.

[9918] (1) I should be very grateful if you could tell me through your queries and replies column of JOURNAL what kind of flowers to grow on a piece of ground 18 yards by about 4 yards. The ground has not much value in it, and trees are on the west side of it. Last year I had it covered with mustard. Is there any plant I could grow that would afford better foraging ground for the bees?

(2) With the extended alighting board is it correct to have it on the ground, *i.e.*, one end of it, or off the ground? If it is off how are the bees which miss the alighting board and fall on the ground to get up to the board, and if on the ground does it not give opportunity for earwigs, etc., to crawl up. In W. Herrod-Hempsall's "Bee-keeping in War Time" the alighting boards appear to extend to the ground.

(3) Is it advisable to close up ventilation holes in roof for winter as the fogs and mists soon make the quilts very damp, causing a lot of changing.

Thanking you in anticipation, and wishing your JOURNAL and RECORD, which are invaluable, every success.—J. J. B.

[REPLY.—(1) A plot the size you mention could be utilised to great advantage either (*a*) as a bee garden generally, growing wallflowers, borage, phacelia, tenacetifolia, arabis, sedum spectabile, aubretia, mignonette, French honeysuckle (Hedysarum coronarium), anchusa, centaurea, all of which are good bee forage; or (*b*) if the minimum of trouble and labour is a desideratum by (1) sowing it fairly evenly with Limanthes Douglasii,

or (2) planting the roots of willow herb (epilobium augustifolium) offered by Mr. Bowen, of Cheltenham, in the advt. column, or a combination of (1) and (2), both subjects freely reproducing themselves year after year.

(2) It is a matter of opinion. We prefer them to rest on the ground, they are removed when packing down for winter.

(3) No, it is better to leave them open. We think your quilts must get damp from some other cause. We never find it gets in our hives to any great extent.

We are indebted to Mr. A. F. Harwood for the reply to the first query.]

White or Brown Sugar for Bee Food.

[9919] (1) May I suggest that the special articles from country correspondents which appear in THE BRITISH BEE JOURNAL shall be dated? We frequently see that "this week" or "last week" important operations were carried out, but in the absence of the information I ask for those portions of the articles are of no practical value.

(2) What are the facts about sugar for feeding? It is said that "yellow crystals" are the purest form of sugar—the white forms having been chemically bleached. The foreman in one of the largest establishments in the trade (Messrs. E. H. Taylor, Ltd.) informed a friend of mine that yellow crystals were the *best*, yet your Journal has resolutely set its face against that form of sugar. Here are two presumably expert opinions at loggerheads, and yet it is not a question of opinion, but of fact. Can you discuss the matter and give a ruling?

(3) Can I feed bees, later on, with syrup extracted from unsealed combs last autumn, and which has since fermented? —ENQUIRER.

REPLY.—(1) Thanks for the suggestion, which has also been made by other correspondents, we will act upon it as far as possible in future.

(2) So far as we are concerned we have given a "ruling" on this matter times without number. *Brown sugar, even if cane, is totally unsuited for bee-food in any shape or form.* We hope that is plain enough. However, in order to get a more authoritative statement on the question of purity as raised by our correspondent, we asked the opinion of an expert in sugar refining, and he replies as follows (the italics are ours):—

"Honey produced quite naturally consists mainly of invert sugar, *i.e.*, cane sugar which has undergone a change either in the plant or in the body of the insect, but may vary considerably, as many plants contain other sugars than cane sugar—grape sugar or fruit sugar. In chemical parlance, sucrose (cane sugar) after inversion becomes a mixture of equal parts of glucose and frutose (invert sugar).

"Pure cane sugar (sucrose) consists of white or colourless crystals, *and no coloured sugar can be described as pure sucrose with accuracy.* This also applies to invert sugar. The colour in impure sugar may be due to artificial dyes or to colouring matters naturally present in raw sugars and incompletely removed during refining.

"The chemicals used in refining do not remain in the sugar, but are removed along with the impurities, *so pure refined cane sugar contains no chemicals other than cane sugar itself*, which is, of course, a chemical. These are *facts*, not *opinions*."

(3) It is not advisable to do so. Better make it into mead or vinegar. You give no indication, however, as to the stage of fermentation. If only slightly fermented, no harm may result to the bees if the honey is boiled for a few moments to kill the yeast germs before it is given to the bees and it is used when bees are flying.

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"L'APICULTURE FRANCAISE" for January includes articles on increased honey production by the use of a half depth division board, a new treatment for foul brood, observations on the piping of queens, etc. A year's subscription costs 3s. 6d.—Agent, E. J. BURTT, Stroud Road, Gloucester. r.m.87

BEE-KEEPING.—Correspondence Course. Practical and theoretical study. Stamp.—MISS PALING, Golden Square, Henfield, Sussex. r.m.89

APIARY at Billingshurst, Sussex, of twenty-two Stocks and all Appliances for Sale. Owner going abroad.—GORDON, 74, Eccleston Square, London, S.W.1. m.90

FOR SALE, Revolving Exhibition Observation Glass Hive, 3 ft. 2 in. x 2 ft. 11 in. x 5 in., very good condition, £11, carriage paid.—Box 5, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. r.m.91

1921 PURE Fertile Italian Queens, direct from the well-known French breeder, Abbé Warré, 9s. each for May/June delivery.—Orders to ELLIOTT, "Westfield," Kelvin Road, Ipswich. m.94

EGGS FOR SITTING.—"I.C." improved cross-bred Runner-Buff Orpington Ducks, 8s. 6d. dozen, carriage paid. Also good Heather Hive for Sale.—STANCLIFFE, Middleton, Pickering. r.m.99

ADVERTISER invites correspondence from skilled bee-keepers in first-class honey and bee-keeping districts with suitable land, or opportunity of obtaining such, with a view of a large Apiary, or Out Apiaries. He would provide up to 70 standard interchangeable Hives with appliances this season with 25 Stocks of Bees.—Box No. 93, B.B.J. Office, 23. Bedford Street, W.C.2. m.93

IF any D.B. has not received the 1921 "Pretty," please drop us a postcard.—S. H. SMITH, 30, Maid's Causeway, Cambridge. m.85

25 PURE ITALIAN STOCKS, £5 5s. each; 15 Italian Hybrids, £5; 20 Blacks, Italian strain, £4; travelling boxes 10s. extra, returnable. Guaranteed healthy on arrival. Great satisfaction given to all customers last year.—J. YOUNGER, 6, Maid's Causeway, Cambridge. r.l.76

GOOD ENGLISH HONEY (liquid), 28-lb. and 56-lb. tins, f.o.r., £8 10s. per cwt.—W. CHANNELL, Grove Apiary, Histon, Cambs. l.77

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LIGHT CAMBRIDGE HONEY, guaranteed pure, 13-lb. tins, 21s. 6d.; 28-lb. tins, 45s., carriage paid.—J. YOUNGER, 6, Maid's Causeway, Cambridge. r.l.53

WANTED, for North of England, a full-time Bee Expert for re-stocking and educational apiary, also for lecturing and visiting in the county; some knowledge of practical fruit growing would be an advantage; living quarters provided.—Applications, with salary expected, to Box 4, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. r.l.56

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HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: **THE APIS CLUB, Port Hill House, Benson, Oxon.**

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IMPORTED ITALIAN QUEENS FOR 1921.—List on application.—PEARSON & GALE, Marlborough. **r.k.88**

WHITE WYANDOTTE EGGS, 7s. 6d. for 13; White Leghorns, 288-egg strain, same price. —WELCH, Wickham, Hants. r.l.82

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ADMINSON'S BEES.—One hundred 6-comb Stocks for disposal in rotation between last week in May and mid-June; minimum strength, four combs of brood; guaranteed healthy and worthy of any apiary; price £5 5s. each, carriage paid.—ADMINSONS, LTD., Benson, Oxon. r.97

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CARNIOLAN QUEENS, NUCLEI.—Book now from only breeder home-bred pure Carniolans —SWAFFIELD, Libertus Villas, Cheltenham. m.95

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A FEW QUEENS AND NUCLEI of my "Shrinewood" Bees to spare, early summer; Queen, 12s. 6d.; Virgin, 5s.; 3-frame Nucleus, £2 15s. Twelve months' guarantee of freedom from "I.O.W." disease with each nucleus.—PETTIPHER, Shrinewood, Dolgarrog, North Wales. r.l.81

500 WELL-MADE BROOD FRAMES, top bar 17 x ⅞ x ⅜, with W.B.C. ends, moulded comb foundation (about seven sheets to the lb.), as successfully used by myself for many years, made from guaranteed pure beeswax, wired in by my latest method, the wires being moulded in the wax; guaranteed bees do draw the foundation well; will sell for 1s. 2d. each, carriage forward, packing moderate, according to number required, or 1 dozen lots 16s., carriage paid; cash with order.—A. J. RIDLEY, Apiarian, etc., Horney Common, Uckfield, Sussex. l.70

"WIGHT" DISEASE.—Prevention and removal. Advice 5s.—ALF. RYALL, Cottage Farm, near Camp, Stroud. r.m.88

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"American Bee Journal" specification Tested three banded Italians.

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13/-	12/-	10/- each.

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The cure for, and preventive of, "Isle of Wight" Disease. Non-poisonous—free from stain or unpleasant odour.

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CANDY Made in our own factory by bee-keepers for bee-keepers.
6 lbs. post free **8/-** **10 lbs.** post free **12/9**
Guaranteed from Pure White Refined Cane Sugar.
Miss Chester-Master's **Patent Candy Box**, **4/6** each. Postage extra 9d.
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SAVE MONEY this winter by making up your own hives. Particulars of wood cut ready to make up into hives will be sent free on receipt of a post card.
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PRACTICAL AND THEORETICAL

My Apiary will be open for a limited number of pupils during this season. Terms and particulars from

W. HERROD-HEMPSALL,
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"Victory" Queens. Wonderful Honey Queens at Pre-War Prices. **"Victory" Queens.**

Extraordinary Carniolan Strain crossed with our specially selected "White Star" Drones.

The remarkable Queens selected for this cross produced several enormous colonies, and many solid slabs of honey during the disastrous season of 1920

The young Queens from this remarkable mother, mated as above, will be offered at **10/6** on first early orders; but it should be realised that it is quite possible all prices will again advance when the Bee Diseases Act comes into force and prohibits the importation of foreign Queens.

THE SECRET OF RAPID INCREASE

(continued.)

Thus in exactly the same manner, by maintaining that method of constant and rapid feeding, with the resultant high temperature most necessary for regular breeding, these apparently hopeless lots, with so-called old queens, that had been kept breeding all summer under high pressure, finished up as crowded, well stored stocks, and, what is quite important, the late fed food was almost wholly sealed.

UNSEALED STORES DANGEROUS FOR WINTER.

Correspondents often want to know why their bees do not seal the stores fed to them. If it may not be too thin, the reason probably is that it is given too slowly (most likely with bottle feeders

"I hived the 'White Star' Nucleus safely, and found only one dead bee. They are a splendid lot, and I am delighted with them."
Aintree, June 25. J. R.

which are useless) so that the bees are not excited to the required temperature, when they have not enough energy to complete the work of evaporation and sealing. Bees cannot live between combs full of unsealed stores during sharp frost, as the cold is intensified by the moisture.

The puny, graduated bottle feeder would spell disaster if used in connection with any of the operations mentioned in these columns.

STARTING NUCLEUS STOCKS PURCHASED IN SUMMER.

Now suppose we take the case of a nucleus set up by purchase in the earlier season when everything is favourable for good progress. This would be a three-frame lot, with a nice lot of young bees and good patches of maturing brood.

When received by rail the bees should be given a flight at once according to directions, and, of course, first placed in front of the hive they are to occupy. No matter what the weather may be, they should have their liberty, and if raining a thick sack or other cover may be placed over them.

When transferring to the hive, which need not and should not be done in rough weather (the bees already having their liberty), the purchaser should be most careful that the queen is seen, and also transferred to the new hive. This is where novices frequently fail, and are liable to lose the queen, though this disaster may not occur if the operator is careful to tilt the nucleus box so that one side meets the alighting board, when the stray bees, and possibly the queen among them, will soon pass in with the majority, the entrance being full width meantime.

From three to seven days after hiving, according to weather, the nucleus may have an empty comb or full sheet of foundation given on either side of the original three, and as soon as the five are well crowded a full sheet of foundation may be given at the centre, only on condition the bees are constantly fed with

"When doing expert work for the Cheshire Association at Ashton, I saw a W.S. stock such as I never saw before. It was in early April of 1919, and they were at swarming point absolutely full of bees and brood."
Bowdon, March 24. H. B.

candy in fair weather or syrup if nothing is being gathered.

NUCLEUS TO STOCK IN A MONTH.

As soon as brood is hatching from several combs it is a very quick stage from six combs to eight and ten. If warm weather prevails a month from receipt of the nucleus should see it a full stock.

INCREASE VERSUS HONEY.

If increase is desired rather than honey, the new stock should be quite crowded before any division may take place.

(To be continued.)

Stocks at Nucleus Rate; Nuclei greatly reduced for 1921. S. SIMMINS, Queenland, Heathfield, Sussex.

Legislation for Bee Diseases.

As will be seen from a notice we have received from the Ministry of Agriculture and published on another page, the Bee Diseases Bill, and the appointment of an advisory committee to help in working it, are postponed for the sake of economy. The stir against waste made by many newspapers, and the loss of votes on the anti-waste question at several by-elections have thoroughly alarmed the Government, and to use an expressive phrase in common use, they have "got the wind up." As is usually the case when any Government begins to economise, they do it in the small things that make very little difference, perhaps with the idea that if they "take care of the pence the pounds will take care of themselves," instead of which another proverb, "penny wise and pound foolish" is more applicable. A typist or two at a couple of hundred pounds per annum each are dismissed, instead of one or two useless officials at as many thousands.

Of course, those who have been opposing legislation have, figuratively speaking, thrown up their hats and howled with joy because they say the Bill is "withdrawn," and this owing to their representations. Both of these statements are false. The Bill is *not* withdrawn, and the reason for its postponement is on the grounds of economy. We are, for one reason, sorry we cannot credit the opposition with the postponement of the Bill. If that were the case, bee-keepers, the great majority of whom desire legislation, would know how to appreciate what some of these self-styled "commercial" bee-keepers had done, and to act accordingly.

In the meantime we must just keep pegging at it. We are not going to let the matter drop for a little set back, although it is disappointing. We are not at all dismayed. Legislation *will* come sooner or later, and the sooner the better. In the meantime organisation can still go on, so that when we do eventually get legislation it may be on the best lines. Send more postcards to your M.P. and the Minister of Agriculture to say you resent the postponement, with a promise that at the next General Election your vote will go to the man who will support legislation *at once*.

There is much more we have to say on the subject, but it must stand over to another week or we will crowd out other articles.

Suspected Disease.

We are very pleased indeed to see that Dr. Rennie has, for the time at any rate, undertaken the work of examining bees suspected of being diseased. Those who send them to him will get the best expert opinion, and it will relieve us. The latter point will be understood when we say that one night last week we were examining bees under the microscope from 9 p.m. until 1.15 a.m. We do not in the least wish to prohibit anyone sending bees or comb for our opinion, but we decidedly do not want to do *all* this work. We have pointed out before, when Dr. Helen Goodrich was doing the work, the examination of samples from as wide an area as possible will be a considerable help to those carrying on the investigations, especially so if the few remaining bees of diseased colonies *with the queen* can be sent to Dr. J. Rennie, Marischal College, Aberdeen.

A Dorset Yarn.

A veteran bee-keeper who has moved into Milverton, Somerset, writes "My district is not a good one for milk and honey, as this last season has been very poor for surplus." He asks my opinion as to fresh stock—"Would it be best to get some English blacks, or the Italians from Buckfastleigh Abbey?" This query, without a doubt, has occurred to other bee-keepers, or has been put to them at different times. The advice I gave was—"Stock from a known source where the bees were resistant to disease." We bought blacks last year; they did well. Have bought, in other years, Italians at two guineas a swarm. We do it on the same principle as with our stock; we change the sire for our stocks. Change the queens to counteract inbreeding, or buy a new stock, and as a sequence import fresh drones to mate with your own queens. Many think that the English black drones are the most active, and can take the longest flight when the young queen takes her mating flight; but that is beyond my judgment, as they fly away too near the heavens for one to see. Books tell us to re-queen, but the bee-keeper will follow what has paid him best; it is the *results* that prove the best system, and those who follow consistently one plan and get plenty of surplus honey will not be easily turned to follow another plan. I should be the last one to advise a bee-keeper to alter his system, but I am never

averse to trying them all. To get a new strain buying the queens is by far the cheapest system. If they are mated before purchasing they will soon build up the population; but to buy a good stock, at from £4 to £5, and have them divided into two or three when queen cells are plentiful, is the quickest and surest way to get the fresh blood into your stocks. Do not think I am touting for buyers of our bees; we do not sell, we want them as we extend the farm, and do not sell them. I have "no axe to grind" by writing this.

The query in the letter might be answered more fully in this yarn. The bee-keeper must get more bees if they do not yield a surplus; it is no use "marking time." The initial outlay is paid back the first year if the bees are a good working strain; until they have been tried it is no use to condemn the district. An investment of £5 for a stock, divided into two in May, will give a good lot of surplus honey (if the season is fair). The stock will be increased to two good strong lots (if you do not let them swarm), instead of the one you purchased, and, what is more, the imported blood will mate with the queens of the other stocks as they replace their queens themselves; or you can give them a comb of brood and a queen cell out of the purchased stock, which will be a surer way of getting the new race of bees into the apairy.

Personally, I favour the latter plan—that is, buy a good strong stock to "ginger up" the apiary. If money is scarce then re-queen the apiary from a good strain near at hand; the sooner it is done the sooner you see the results of the new queens, but these cannot be got until the season is partly through. I have known what it is to be short of money, and have had to go the cheapest way to work with limited means, but even in those years a migrating swarm came along and gave the new blood in the apiary. The strangest part of these migratory swarms is they are all black; they must be from the wild bees in the forests. It was of these bees in the woods I wrote last week; your readers are not much the loser by my lot being lost. The JOURNAL is most interesting.

The same querist sends the enclosed extract by "Raymundus de Sabunde" in the year 1434:—"The Book, Nature, is the chief source of all truth, the root, the beginning and foundation of all the kinds of knowledge necessary for salvation; we can learn more in a month from it than from learned men in a century. It makes man glad, humble and obedient, a hater of vice, a lover of virtue; it does not puff up nor mislead into arrogance."—J. J. KETTLE.

Jottings from Huntingdonshire

Two roadmen are busy widening the roadway. With pick and shovel and line they mark off the portion of the on-growing turf which must come away and throw it with all its accumulation of road swillings towards the hedge. "Thank you," says the restharrow; "Thank you," says also the ox-eye daisy, the wild clover, the knapweed, the scabious, and the millefoil; "this top-dressing is good for our roots and we'll flower all the better for it." I wonder if some of us rural dwellers realise as we should what a help the roadman can be to the bee lover. The myriads of flowers which carpet and decorate the sides of our country lanes offering so much wealth to the bees would be stunted and shabby were it not for the stimulus they receive from the road swillings.

One has only to notice the bare, colourless herbage running along those roads where no scraping goes on, or where the roads are tarred and the refuse swept up, to awake to the fact that our country roadmen are a greater blessing than we think. A word of encouragement to these worthies and a packet of tobacco at Christmas time will ensure the scrapings and trimmings being well spread over the roadside grass. It takes no longer than piling in heaps, a practice some roadmen have. Roadside flowers are a great asset to the honey harvest; the more then they are encouraged to grow the better.

The whole of this week the weathercock has been facing North; therefore thin, nipping winds have been the order of each day and the bees are not happy about it all. True, towards mid-day when the sun gains strength they come out, but for the most part only to fly; it is too cold to loiter even for a moment on an attractive flower. North winds are always hateful to bees; they dislike them at any time, and yet one still meets a few bee-keepers who advocate turning all hives North for the winter. Sixty years ago this was considered quite the right thing to do, the claim being that less honey was consumed, which was probably correct. They were content in those days if a queen began laying in April—the month some of us expect our earliest swarms.

Another month and the winter season will have practically gone. Its mildness has eclipsed last year. This morning I saw some self-sown potatoes showing leaves above the ground. Sheltered from the frosts, we may get new potatoes in April. But mild winters are not the best for bees. A bee's life in summer is about six weeks; September and October hatched bees are expected to live as many months. They will if the winter be fairly

cold. If, however, they are flying on an average five days out of seven, what is the result? Scores of bees wear themselves out before the queen is ovipositing in real earnest. Doubtless many bee-keepers who last autumn packed their bees down for the winter on eight combs will find not more than sufficient bees to cover two combs by March unless the queen has endeavoured to right matters by laying vigorously. I saw a hive of Holmewoods the other day which made me break the tenth commandment straightaway. Looking under the quilt to see if any candy was needed we saw bees by the ten thousand, nine frames of comb crammed with bees, hosts of which were young. Some queen that—worth her weight in radium.

What is the weight of a queen? Miss Betts has weighed a worker and, if I remember correctly, gives her weight as .005 lb. A fertile queen will be materially heavier, but by how much? Perhaps Miss Betts will tell us.

The hazel catkins are now hanging in great numbers and there's pabulum about for embryo bees. A little comb scratching therefore should stimulate most queens to lay.—E. F. HEMMING.

Steeple Gidding, February 12th.

The Examination of Diseased Bees.

The Ministry of Agriculture and Fisheries desires to inform bee-keepers that arrangements for the examination of diseased bees no longer exist at the Department of Comparative Anatomy, The Museum, Oxford. Pending the appointment by the Ministry of a bacteriologist to undertake such work, Dr. J. Rennie has kindly consented to carry out examinations, and to furnish reports to the bee-keepers concerned. In future, therefore, specimens, together with the name and address of the sender, should be sent to Dr. J. Rennie, Marischal College, University of Aberdeen.

Ministry of Agriculture and Fisheries,
Whitehall Place, London, S.W.1.
February 9, 1921.

Legislation to Deal with Bee Diseases.

Owing to the recent decision of the Government that, for the present, no new schemes which involve the expenditure of public money shall be proceeded with, the Ministry of Agriculture and Fisheries informs bee-keepers that no further progress can be made at present with the Bee Disease Bill which was introduced into the House of Lords on December 20 last.

The Ministry has also been making preliminary arrangements for the establishment of a Bee Advisory Committee, which it was hoped, would represent thoroughly every section of the bee-keeping industry; its function would be to advise the Ministry on all apicultural matters, including the question of legislation respecting bee diseases. In view of the need for economy and the postponement of legislation, it will be necessary to delay the formation of this Committee.

In the meantime it is hoped that bee-keepers will take steps to organise themselves in order to arrive at a means of expressing an agreed opinion on the measures to be taken for the protection and furtherance of the industry.

Ministry of Agriculture and Fisheries,
Whitehall Place, London, S.W.1.
February 9, 1921.

Supply of Italian Queen Bees, 1921.

In continuation of the scheme for the introduction to this country of a strain of disease-resistant bees, the Ministry of Agriculture and Fisheries has arranged for the importation and distribution during the summer of guaranteed pure fertile Italian queen bees at the following prices:—11s. 6d. each for delivery during May and down to June 25; 8s. 6d. each for delivery during July and August.

The queens will be examined before re-despatch by the Ministry's expert. Any found dead on arrival will be replaced free of charge, provided the cages are returned to the Ministry *immediately* and *unopened*.

If possible, bee-keepers will receive a few days' previous notice of delivery, but they will in all cases be advised by telefram of the despatch of the queens by the Ministry. Each bee-keeper will also be supplied with printed instructions as to the best method of introducing the queens to colonies of bees.

Applications for queens, together with a remittance to cover their value, should be forwarded, prior to February 28, to County Education Committees *and not to the Ministry*.

Ministry of Agriculture and Fisheries,
Whitehall Place, London, S.W.1.
February 10, 1921.

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of January, 1921, was £5,138, from a return furnished by the Statistical Office H.M. Customs.

Legislation and Economy.

[10396A] I see from the daily papers that our Bee Diseases Bill has been rejected on the score of economy. While these pages are not the correct place to give voice to one's political views, I should like to say that I am hardly surprised at the verdict. Seeing the loud and insistent demands for strict economy from all sections and quarters, the Government will naturally cut out any demand which may not have sufficient backing to enforce their requests. It was an unfortunate time to have this Bill entered for debate, but one feels inclined to wonder if the result would have been the same if it had been a demand from such a body as the N.U.R. or other strong Trade Union body.

However, leaving the land of conjecture, I would like to draw the attention of all earnest bee-keepers to the fact that they still have a good reason to hope that they can get some sort of measure passed in their favour if they act promptly. Speaking for myself, I feel very strongly on this subject of legislation, being one of the few men in this country entirely dependent upon my bees for my livelihood, and it is impossible to feel safe in investing capital in the craft while we are not protected in any way whatever. The object of this present letter is to ask all beemen who really want legislation not to let the matter drop in tame submission like a lot of old sheep, and when the first yap of opposition goes up all run away. *Let everyone write at once* to their M.P. a strong note of protest, and let the B.B.K.A. take the lead in the matter. It is also possible to get our legislators (I hope they are worthy of the name, but often "ha' ma doots") to give more favourable consideration to the subject, if it is pointed out to them that there is no need, nor do most of us want, to have an expensive, elaborate Bill; indeed the only expense they need to be put to is the time taken for discussion and passing it.

I would make the following suggestions:

It can be taken for granted that we cannot make any headway until we get a complete register of all bee-keepers, including all "have beens," who have hives knocking around empty which they might use at any moment a stray swarm came along. Then let us demand from the Government that all County Councils have power given them to make by-laws compelling all bee-keepers, as above, to register either with the same committees which had the task of allotting the sugar rations or with their own county associations, and the two committees could work together, as they often do now, thus entailing no extra expense in registration. Once this register is complete, surely the various associations working with the agricultural committees could look after their own interests, and it would be up to them to look out all the recalcitrants, and try first persuasive measures, and if these failed black-list them. If there were an appreciable number of these in a certain district, notice should be sent to the County Agricultural Committee, who should apply for powers to compel these black-listers to destroy all sources of infection. No compensation would be payable, for badly diseased bees are utterly worthless, and seeing that they had earlier opportunity of treating under advice, they should not be entitled to further consideration. Such measures would require no heavy financing, and the biggest part of the work could be done by voluntary assistance. What the bee-keeping fraternity in this country has accomplished up to the present has been done by voluntary workers, and I don't see why we should sit down and fold our hands and sigh, thinking that we can do nothing more just because a lot of —— (miss out that word. Mr. Printer, some of our readers are parsons) think that bee-keeping is "only a hobby." This expression I had to hear passed by a big fruit grower only this week at a committee meeting which it was my duty to attend, and, as my confrères can imagine, my blood boiled somewhat at the sneer, for it has been possible for bee-keeping to be little else in this country under the present conditions, while the foreigner can dump his thousand tons here and swamp out the home producer, even labelling his fifth-rate stuff as fine *English* honey.

Now, Brother Bee-keeper, will you do your best, write to your M.P. this very day and tell him what an ass he must be (only put it politely) not to have thought of the importance of British bee-keeping, and what money we could keep in this country, what work could be found at remunerative rates for our ex-Service men, if only they could have seen a little further than their noses. Tell them we do not ask for umpteen millions a year, as if it were so much pence, as is their usual way of doing things; tell them bee-keepers are very careful, thrifty folk, and not given to undue extravagance, and all we ask for is to be able to say to a man who does not know what he is doing and *does not care*, "Either stop your nuisance or get out of the game." Our slogan for the next few years must be "Better bee-keepers, better bees, and better honey crops." It can be done if all will pull together; who will make the start?

In a general review of the last three or four years it is strikingly apparent that if the industry, which is worthy of the

higher name of "Science," is to make as good headway as its most ardent followers desire, we must have some union in our methods. The loss of this last Bill is another indication of the lack of correct methods. Those responsible did all they humanly could have done, but it still is a patent fact that the Governments of any country recognise combined forces such as any Trade Union present, and grant their demands quicker. We can think what we like about their reasons, and say they are afraid of them, but the fact remains, and we ought to take a leaf out of their book and combine together in some such plan. [The Bill is not "lost."—EDS.] There are already existing bodies which could be utilised for the purpose, and I, for one, would like to see the British Beekeepers' Association break away from its time-honoured and somewhat crusted principle of refraining from any commercial enterprise whatever. They need not enter the realms of actual buying and selling, but they might assist to organise some such association as I have suggested in these columns for the amalgamation of British honey producers, and another useful body would be an association of breeders. These two bodies should be able to find sufficient capital to make their working a fairly easy matter, but, of course, it would not be all "honey" for the first year or two, but in the end we ought to be able to snap our fingers at any foreign competition. Once the big British public were made aware of the existence of such an article as pure British honey, we might rest assured they would prefer it to that which is often as bad as if it had been "Made in Germany." Please think it over.—F. M. CLARIDGE.

Random Notes.

The latest theory in regard to Acarine disease being caused by obstruction to respiration was alluded to by Mr. Smith some time ago, and was his reason, I believe, for spraying with Flavine solution. The same effect would be produced by sulphur fumes, as suggested by myself, although at the time I wrote I thought it probable that the sulphur dioxide was converted into sulphurous acid in the system. In any case, I am of opinion that medicating, etc., bees' food has not been proved to be beneficial in Acarine disease, and is not to be recommended.

I hope Mr. Kettle will still continue his yarn, in spite of adverse criticisms; personally it is the first article I read, and is always interesting.

A cheap feeder, which I have not seen mentioned, consists of two pieces of wood about 5 ins. square and 1 in. thick, with a hole in the centre of each about 2 ins. in diameter, between which is fixed a piece of perforated zinc, and the two pieces screwed together. This is placed over a hole in the quilt, and an ordinary pickle bottle filled with syrup, the mouth covered with muslin and tied with string, is set on the zinc and filled as required, without disturbing the bees.—DR. ALLEN, Ambleside.

Winter Losses.

Winter losses will, I think, be very serious this year. Many will think they already have been serious enough, but certainly the worst has not happened yet, even if the weather should remain mild till May, whereas the likelihood is that we have a second winter yet to come.

Lamentable pictures of starvation present themselves when we open a hive of dead bees—starvation often with plenty of honey in the hive. Sometimes the superfluous cake of candy placed above full combs to "mak sikker" has caused the death by damping the atmosphere, especially if the stock was not a strong one. I look upon winter candy as a dangerous expedient only to be used in the last extremity.

I sometimes envy the lot of German bees wintered on frames 16 in. deep with plenty of honey directly overhead and with a quilt of boards a bee-space above the top of the frames. As against that I have seen in England this winter clusters of bees dead on one end of a standard frame with honey at the opposite top corner. Why they could not move even that little way in the mild weather we have been having it is very hard to say. I suppose, however, that a little brood would anchor them to their place after the little bit of store overhead had been consumed. But why not fetch it from across the comb? The fact remains that often they don't, and starve within reach of plenty. The weather I suppose has been just mild enough to promote consumption of stores, but not mild enough to permit rebuilding of the cluster and honey-carrying within the hive.

The January number of *L'Apiculture Française* contains the account of a curious old wintering device no longer practised but just "re-invented" by Baron de Thônes. It is a hive that you tilt forward in winter 45 degrees, floorboard and all, so that the entrance comes underneath and the back wall and the cover make a gabled roof. The gable, of course, becomes the warmest part of the hive, and the bees work up that way towards the honey (which is always stored at the back). As soon as they come to the top of one comb they find the next

one, as it were above them, and naturally step on to it. Not at all a bad idea, *faut de mieux*.

However we do it, we must diminish our winter losses. Many a man would be rich if all the bees he put to bed in autumn woke up well in spring, whereas this spring he may as well look forward to losing from 50 to 75 per cent. of his capital. Well, let us hope it will not be quite so bad as that with most of us.—G. G. DESMOND, Sheepscombe, Stroud, Glos.

P.S.—I wrote at the right time telling a fellow-contributor that a flower he found many bees on, with a little pink blossom and seed the shape of onion seed, was black bindweed or wild buckwheat. There are two very useful Continental crops that ought to be grown in this country—buckwheat, which is a very good cleaner of weedy land and gives lots of good chicken food, and seradella, a late-blossoming half-clover that gives lots of autumn honey in Germany as well as a good autumn cut of hay.—G. G. D.

North Cheshire Notes.

Some Comments.—Re Mr. Ellis's remark (p. 44) that commercial bee-keepers do keep their apiaries free from disease, I have heard of such an one who lost stocks by the hundred from what we used to know as "Isle of Wight" disease. I think the B.D. Bill is necessary, and have acquainted the local M.P. and the Ministry of Agriculture with my views.

Re Mr. Wood, on page 46 (10,385). I cannot agree that an imported queen necessarily produces weak progeny. Italian queens are largely reared in a more severe climate than our own in the winter, I believe. Doubtless they get more sunshine. But how about Dutch? Much of the country of Holland is humid enough.

The introduction of fresh blood, even from parents reared in a much warmer climate than ours, tends to impart stamina, as witness the introduction of Arabian blood into our thoroughbred horses. I hold no brief for Italians, indeed I would prefer our own natives where they have been known to survive the various diseases that British bees have been afflicted with during the last few years, but for all that I believe that the great losses arose from weakened stamina owing to close inbreeding.

Ill-Effects from Eating Honey.—I believe some people cannot take honey without being made ill. My mother could not at one time. I remember her partaking of a little comb-honey (delicious white clover honey it was) and having a severe heart attack almost immediately afterward. She was not sure then that it was the result of eating honey, but subsequent events proved it.

Metal Combs.—We hear very little of the experience of those who have tried metal combs and foundation. I should like to hear the experience of those who have, and doubtless many others would, too.—D. J. HEMMING, Appleton, Cheshire.

Brood Control and Surplus.

(*Continued from page* 57.)

(3) Contracting the brood nest to a few frames of comb at the beginning of the honey flow, and forcing the bees into the supers for lack of other room.

This is a well-known method in this country, where it has been practised for many years. It is free from the defects of the other two methods, and answers well if the bees can be kept from swarming. Giving plenty of room in the supers, with abundant ventilation, is beneficial, but it often happens that nothing will prevent the bees from swarming as soon as they feel themselves cramped in the brood chamber. Perhaps the only effective method of counteracting this drawback will be the production of a bee that will be altogether averse from swarming.

Here I know that I am up against the "leave-it-to-Nature" school. But why should the production of an anti-swarming bee be impossible? Horses, cattle, dogs, cats, rabbits, poultry, and even birds and mice, have been bred of colour and form and habits that Nature in her wildest moods would never have dreamed of producing unassisted. Cows will give a thousand gallons of milk a year and never see the calf for whom it was intended as nourishment. Chickens will lay hundreds of eggs that they never want to hatch.

The bee is quite as capable of development as any of these. Let the bee-keeper breed only from stocks that he sees are disinclined to swarm, and note the result. I myself, out of nearly eighty stocks, did not have a single swarm last year, and only one the season before that.

(4) Re-queening before the honey-flow with a young queen that has just begun to lay.

In the few instances in which I have tried it, this method has given the best results of all. It involves the expense or trouble of securing a young queen, but as most advanced bee-keepers now re-queen every year at any rate, it cannot matter very much whether the re-queening is done after the honey flow or before it.

If the brood nest be contracted, the

bees will not as a rule swarm after being given a queen of the current year. Neither will they, as a rule, build drone comb or rear drones. A young queen begins with a very small circle of brood, and does not "get into her stride" until a month or six weeks after beginning ovipositing. This is just about the period necessary to save the honey harvest from a host of useless mouths. After the flow is over, and the supers have been removed, the shortage of forage will induce the bees themselves to set bounds to her breeding, and she will be in fine fettle for an early "kick-off" next spring.

Finally, I am convinced that the importance of this subject merits all the attention we can give it, and I shall be glad if some of our apiarists who have tried any of the foregoing plans will give us the benefit of their experience. Also those who have tried other methods might also lend their help.—HUGH HOUSTON, Sidcup, Kent.

Scottish Bee-Keepers' Association.

The resolution of the Scottish Bee-keepers' Association to meet in different parts of the country in rotation instead of always at Perth, has been fully justified, greatly increased attendances having resulted from the change. The first meeting of the Council for the year was held at Cupar, Fife. There was a large attendance of members from all parts of the country; only once has the number been exceeded. The chair was taken by Mr. J. H. Langlands, E.B., S.B.A., president of the Association, and amongst those present were Lady Salvesen and Mrs. J. E. P. Robertson, E.B., S.B.A., the Convener and Vice-Convener of the recently appointed Committee on Bee-keeping for Women.

The minutes of the previous meeting were read by the Secretary and confirmed.

Mr. J. W. Moir, F.R.S.G.S., hon. treasurer, reported that the finances were in a favourable position, and when the Board of Agriculture Grant for 1920 is received, the balance for the year will be very satisfactory.

The Education Committee reported that there had been a gratifying increase in the number of candidates for Certificates. Twelve had secured the Honey Judge Certificate, but over 50 per cent. of the candidates had failed to reach the required standard. Expert Bee-master Certificates to the number of 29 had been gained (compared with 24 in 1919) and 79 Bee-master Certificates (60 in 1919).

On the recommendation of the Committee, the Council most heartily passed the following resolutions:—

"The Scottish Bee-keepers' Association desires to place on record its high appreciation of the valuable service rendered to the whole bee-keeping industry through the discovery of the *Tarsonemus* parasite, the probable cause of the 'Isle of Wight" disease. In recognition of these services, the Association invites Mr. A. H. E. Wood, of Glassel, for his intelligent foresight and fruitful generosity, and Dr. Rennie, of Aberdeen, for his careful and successful scientific researches, to accept the Diploma of Honorary Expert Bee-master of the Scottish Bee-keepers' Association, the highest distinction which the Association can bestow. It is specially gratifying to the Council that Mr. Wood, whose name stands first on the list of life members of the Association should also be the first Honorary Expert.

"The Council also proposes to place the name of Mr. P. Bruce White, who was the actual discoverer of the parasite, and of Miss Elsie Harvey, on the list of Honorary Associates, in recognition of their invaluable assistance in the successful researches."

The Library Committee reported that the Library was in a flourishing condition, and now contained no fewer than 590 volumes. There was a constant demand for the books, and it was resolved to obtain extra copies of those in most frequent request, and to issue a new catalogue, the present stock being exhausted. Mr. John Anderson, B.Sc., Aberdeen, expressed the great indebtedness of the Association to Mr. Moir, the librarian, for his generosity, enthusiasm, and untiring efforts on behalf of the library.

After an animated debate on the Bee Diseases Bill, the previous attitude of the Association was confirmed, and it was resolved to invite all the Federated Associations to support the measure, provided assurances were received from the Government that the Scottish Board of Agriculture would be the authority for carrying it into operation in this country, and that the Adviser for Scotland should be independent of the Adviser for England.

The Convener of the Propaganda Committee having expressed his desire to resign, it was resolved to postpone the appointment of his successor till the April meeting.

Mr. A. Aikman Blair, Convener of the Shows Committee, proposed that as usual the annual exhibition should be held in connection with the Highland and Agricultural Show, which is to take place in Stirling at the end of July. He suggested that a larger share of the B.O.A.S. Grant should be allocated to the Shows Committee on account of the vigorous and effective propaganda work in the Bee Tent and Exhibition during the Show week. This was unanimously agreed to.

A draft of a revised constitution was

submitted, and it was resolved to send copies to the various Federated Associations for their consideration, replies to be received by March 15, in order that the Constitution Committee may submit a final report at the annual meeting in Perth in April.

Tenders for the position of contractors for bee supplies were then dealt with. Four offers had been received, but as none was more favourable than that of Messrs. Steele & Brodie, Wormit-on-Tay, the present contractors, it was unanimously agreed to appoint that firm for another year. The terms are that combined orders sent on behalf of a local Association or Branch by the Secretary or other official, will be supplied at wholesale rates. Associates and members who order their supplies individually will receive a discount of 7½ per cent. from the retail price list.

The Council conveyed its thanks to Lady Salvesen and Mrs. Robertson for taking charge of the Committee on Bee-keeping for Women. An official leaflet will be issued to Women's Rural Institutes and similar bodies offering advice and aid to groups of women bee-keepers or to individuals who may apply to the Committee for guidance.

Other matters of minor importance were dealt with, and will come up for decision at the April meeting in Perth. Votes of thanks to the Chairman and Secretary were heartily accorded.—*Communicated.*

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

A Stock of Bees Wanted.

[10397] We have had very bad luck with our stock of bees this past season. A swarm which issued one Sunday decamped before we could locate its first settlement, and it could not be followed. Now I find that the stock—which was nice and strong in September and October, had been Italianised with a Government queen and had heaps of stores—is gone, all the bees are dead on the comb or at the bottom of brood chamber. It is most discouraging for my young pupils, isn't it? though winter risks have been pointed out to them. The Chief Adviser on Rural Subjects to the Board of Education was down to inquire how I worked the club, etc., not long before Christmas (he is a first-class expert in Devon), and he took a peep into our hive, and was pleased with winter packing, etc., and congratulated me on the work. To buy another stock is an expensive thing now, but I was wondering whether one of your readers, who is keen on the training of young people to be good bee-keepers, would give us a stock? A tall order, perhaps, but for an excellent purpose.

Thanking you very much for your assistance. — W. Bennetts, Bee-keeping Club, Boys' Council School, Petersfield.

[Mr. Bennetts has been doing good work with the school bee-keeping club, as shown by the reports we published in the Journal. We are sorry to hear of the club's misfortune, and trust someone will be able and willing to come to the rescue. —Eds.]

Bee Diseases Bill.

[10398] The Editor's leading article on this subject leaves nothing for criticism, except that the destruction of stocks required by the Bill should not be carried out until the owner has been proved not to take efficient precautions, or known methods of cure, within a certain time limit.

There are thousands of hives left exposed about the country, beeless, but full of combs, allowed to stand, in many cases, to entice fresh occupants, the dead remnants of the original affected colonies, or diseased brood, not even being cleared away. It is such as these that must be mercilessly hunted up and wholly destroyed as one only of the great sources of injury to the bee community.

I do not see why any breeder or importer of foreign queens can object to an Act that will ensure for him a clean slate, if not already clean, and a more reliable business reputation.—Saml. Simmins. Queenland, Heathfield, Sussex, February 14, 1921.

Best Country for Bee-Keeping?

[10399] I am interested in the future of an ex-Service man, and wondered if you could give any information of the following:—What country is at the present considered the best for profitable honey production? Where could application be made for particulars *re* same? How much capital would be need to commence a small fruit and bee farm with some prospect of success?

Perhaps a reader of The British Bee

JOURNAL could help. Thanking you in anticipation, I am, W. ARMSTRONG.

[It is a difficult matter to say which is the *best* country for the purpose. California is good, and so are other parts of U.S.A. Canada, New Zealand and Australia also offer good opportunities. Possibly some of our readers who have had experience abroad may be able to supply information.—EDS.]

Aluminium Extractor.

[10400] Although I have had some fourteen years' experience in the manufacture of sheet aluminium cooking utensils, I have not used a honey container made from that material, and therefore refrained from replying to your correspondent (No. 9917). However, the statements of Mr. Clubb (No. 10382) are so inaccurate and misleading that I am compelled to protest.

It is now common knowledge that soda must not be allowed to come into contact with aluminium, though the amount used in ordinary cooking operations does not appreciably affect the metal. Mr. Clubb's statement: "The acid decomposes the metal in the form of a white powder." is probably due to some confusion of terms, this being the action of strong soda, which is an alkali. The following extract from Professor Richard's work on aluminium may be of interest in this connection :—

"I have observed that the tin so often used and which each day is put in contact with common salt and vinegar is attacked much more rapidly than aluminium under the same circumstances. Although the salts of tin are very poisonous, and their action on the economy far from being negligible, the presence of tin in our food passes unperceived because of its minute quantity. Under the same circumstances aluminium dissolves less in quantity; the acetate of aluminium formed resolves itself on boiling into insoluble alumina or an insoluble subacetate, having no more taste or action on the body than clay itself. It is for that reason and because it is known that the salts of the metal have no appreciable action on the body that aluminium may be considered as an absolutely harmless metal."

The same author states as the result of experiments with 5 per cent. solutions of tartaric, acetic, citric, lactic, butyric, boric and carbolic acids that their action on aluminium is negligible, but I find no mention of formic acid. If the possible action of honey on aluminium is a matter of general interest, and none of your readers are able to give the results of actual experience, I shall be pleased to carry out what would be a very simple experiment and furnish you a report on the result.

With regard to the practicability and cost of using sheet aluminium for a honey extractor, annealed metal is soft and unsuitable, but medium hard temper would be quite satisfactory. 22 or 24 S.W.G. would be a suitable strength, and the cost would compare favourably with good quality tinplate. The provision of an outlet near the bottom would present some difficulty.

I cannot imagine any bee-keeper storing a honey extractor in anything but a clean, dry condition, but if put away both damp and dirty that condition would have no effect on aluminium.—ERIC SELLMAN.

January 29, 1921.

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One Penny per Word.

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WILL any bee-keeper provide an enthusiastic beginner with one Stock or two inexpensively? Hints and correspondence welcomed.—LAVELL, 7, Ryde Vale Road, Balham, S.W. m.105

LIMNANTHES, best bee flowers, strong plants, 3s. for 4 dozen, post free.—A. RICE, 21, Birchgrove, Whitchurch, Cardiff. m.106

EXPERT, 2nd class, requires post, home or abroad.—J. BRAY, Yanworth, Fosse Bridge, Gloucestershire. r.m.108

HONEY, excellent Wiltshire blend, 7 lbs., 15s.; 14 lbs., 25s.; 28 lbs., 48s. 6d., including tins.—PINDER, 2, Endless Street, Salisbury r.m.129

ENGLISH BEES, strong stock, two standard 10-frame hives, lifts, excluders, many extras, complete start for beginner, all clean and new, £12.—GADGE, 59, Frankfurt Road, Herne Hill, S.E. m.126

ADVERTISER invites correspondence from bee-keeper intending to launch out on commercial lines; honey production, queen rearing, nucleus, appliance dealing, combined apple culture, market gardening; single preferred; a view to partnership.—Box 9, B.B.J. Office, 23, Bedford Street, Strand, W.C.2 m.127

FOR SALE, Hive, Barrel-Extractor, Ripener, Veils, Frames and all Accessories complete, £6.—JAMES ANDEN, Hillington, Jersey Road, Isleworth. m.107

WE SHOULD LIKE to hibernate a little longer, but they won't let us. Some of our dreams are coming true. "Lost motions" are being canned at Olympia (*vide* Intensive Bee-keeping). The "organism" in the spiracles of the bee turns out to be a mite (*vide* our advert., May 23, 1918).—SMITH, Cambridge. m.109

RE THOSE PRETTIES.—We shall be at Olympia all day Friday, the 18th. The first ten D.B.'s we meet who have their "Pretties" with them will be each given an order for one imported Italian Queen Bee.—SMITH, Cambridge. m.110

FINEST Light Lincolnshire Honey, in 15-lb. tins, price 25s. each, carriage paid; sample 6d.—CHARLES CUBLEY, Gedney, Holbeach, Lincolnshire. m.112

EGGS FOR SITTING.—Single Comb Rhode Island Reds, best heavy laying utility "Reds" in England. This strain has been got together regardless of cost. Pullets average 260 eggs in first laying year. Price 10s. dozen; unfertiles replaced, or 15 to dozen not replaced; worth treble; carriage paid.—CHARLES CUBLEY, Gedney, Holbeach, Lincolnshire. m.113

WANTED, two Skeps of Dutch Bees; must be healthy; lowest price; experimental purposes.—LOXLEY, Northfield, Birmingham. m.114

200 STANDARD Wired Shallow Combs, for extracting, 15s. dozen, built on drone base foundation, guaranteed healthy, clean, dry, perfect condition; as used in my apiary.—RICHARD LING, Briston, Melton Constable. m.116

HIVES, Extractor, Ripener, Feeders, Racks drawn out, Shallows, ditto Sections, Standard Combs, ½ gross screw-top Bottles, Metal Dividers, etc., cheap for quick sale; moving.—DOLLEY, 3, Penn Road, Datchet. m.117

WORKER COMBS, three dozens, standards, perfect condition, 4s. each, carriage forward.—Box No. 7, B.B.J. Office, 23, Bedford Street, W.C.2. m.118

THREE W.B.C. HIVES, one new and unpainted, others new last season, all joiner-made and interchangeable, 6-frame Stock Hybrids, all healthy, also quantity of Appliances, £9, f.o.r., or offer.—H. PECK, The Groves, Sneadland, Kent. m.121

WILL exchange W.B.C. Hive, nearly new, for 6-framed Stock of Bees, Dutch preferred.—2, Kennington Road, Weston, Bath. m.123

HIVES AND BEES, 10 brood, 10 shallows, honey fed, £6 each.—SHAW, Primrose House, Heacham, Norfolk. m.124

1921 HIVES AND APPLIANCES.—Write for list to ANDREWS & CO., Hive Works, 78a, Westgate, Peterborough. Quality the best. Immediate delivery. r.c.71

CARNIOLAN HYBRID STOCKS in straw skeps, 5 gs. each; deposit system.—Box 8, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. m.125

WILLOW-HERB, distinctive and useful, twelve 2s. 6d.—BOWEN, Apiaries, Cheltenham. r.m.29

HONEY FOR SALE, about 1 cwt. What offer?—Address, A. INGRAM, Mill Lane, Broughton, Hants m.84

FOR SALE, Revolving Exhibition Observation Glass Hive, 3 ft. 2 in. x 2 ft. 11 in. x 5 in., very good condition, £11, carriage paid.—Box 5, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. r.m.91

25 PURE ITALIAN STOCKS, £5 5s. each; 15 Italian Hybrids, £5; 20 Blacks, Italian strain, £4; travelling boxes 10s. extra, returnable. Guaranteed healthy on arrival. Great satisfaction given to all customers last year.—J. YOUNGER, 6, Maid's Causeway, Cambridge. r.l.76

BEE-KEEPING.—Correspondence Course. Practical and theoretical study. Stamp.—MISS PALING, Golden Square, Henfield, Sussex. r.m.89

ADVERTISER invites correspondence from skilled bee-keepers in first-class honey and bee-keeping districts with suitable land, or opportunity of obtaining such, with a view of a large Apiary, or Out Apiaries. He would provide up to 70 standard interchangeable Hives with appliances this season with 25 Stocks of Bees.—Box No. 6, B.B.J. Office, 23, Bedford Street, W.C.2. m.93

GOOD ENGLISH HONEY (liquid), 28-lb. and 56-lb. tins, f.o.r., £8 10s. per cwt.—W. CHANNELL, Grove Apiary, Histon, Cambs. l.77

WANTED, for North of England, a full-time Bee Expert for re-stocking and educational apiary, also for lecturing and visiting in the county; some knowledge of practical fruit growing would be an advantage; living quarters provided.—Applications, with salary expected, to Box 4, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. r.l.56

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FLAVINE CANDY.—We feel it in our bones that sugar is going higher, but Flavine Candy will be procurable at 9s. per 6 lbs., post paid.—S. H. SMITH, 59, Maid's Causeway, Cambridge. m.111

BUCKFAST QUEENS are the very best. Descriptive Circular free on application.—BROTHER ADAM, Buckfast Abbey, Devon. r.m.115

COMMERCIAL BEE-KEEPING.—Adminson's Breeding Hive with B.H.C. remains unsurpassed for commercial breeding and honey production; light, simple, economical, progressive.—ADMINSON, Benson, Oxon. r.m.120

SPECIAL ANNOUNCEMENT. — Use Bowen's "New Process" Candy, valuable stimulent, arrests dwindling 6 lbs. 8s. 6d.—BOWEN, Cotswold Queen Breeder, Cheltenham. m.122

HIGH-GRADE ITALIANS, "Golden All Over," heaviest honey-gathering strain obtainable.—Particulars from E. COOMBER, Breeder of Superior Golden Bees and Queens, 64, Ronald Park Avenue, Westcliff-on-Sea. m.128

FEW SURPLUS Italian and Italian Hybrid Stocks on 8 frames, £5 and £4 15s. respectively, carriage paid; early April delivery; first-class honey-gathering strain; reared on the East Coast; cases returnable. Orders booked for 3-frame Italian Nuclei, £2 15s.; cases 7s. 6d., returnable; carriage paid.—TUNMER, "Chalfonts," Leiston. m.130

"L'APICULTURE FRANÇAISE" for January includes articles on increased honey production by the use of a half depth division board, a new treatment for foul brood, observations on the piping of queens, etc. A year's subscription costs 3s. 6d.—Agent, E. J. BURTT, Stroud Road, Gloucester. r.m.87

ENSURE A GOOD HONEY CROP this year by purchasing one of our noted 6-frame Italian Stocks. Illustrated Catalogue free on application. —PEARSON & GALE, Marlborough. l.16

ADMINSON'S SEMI-COMB.—The latest achievement of scientific bee-keeping and modern engineering. In British standard, 16 in. x 10 in., and shallow sizes, the last with drone cells. Try it for the production of extracted heather honey.—ADMINSON, Benson, Oxon. r.m.119

ADMINSON'S SEMI-COMB.—Specimens of this aluminium type of comb are now available for inspection at LEE'S FACTORY, George Street, Uxbridge. Catalogue free. r.96

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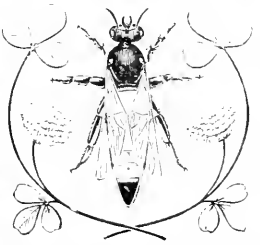

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Safe arrival of queens and nuclei guaranteed, and carriage paid. Should any queen be lost from a nucleus within three weeks from delivery, we guarantee to send another. Every queen is warranted for six months trial, and 1921 reared.

THE SECRET OF RAPID INCREASE

(continued.)

For extensive increase the writer would prefer to place another chamber of frames of foundation above the stock, with two of the combs of brood near the centre having one of foundation between. Foundation will replace the brood removed from below, also near the centre. If the season does not allow the bees to store freely, candy feeding should be continued.

In three weeks from doubling the lower chamber may be moved to a fresh site,

"The bees I got from you have done well, and have never had the I.O.W. disease, although it is about here. They are the best in the county and grand workers."
Cleator, Cumb. T. H.

being sure the queen remains with the chamber left on the old stand. This operation is best done on a warm day, about 11 a.m., and should there be any difficulty as to finding the queen the moved lot may be looked over towards evening, as the bees remaining will be the younger population and their number somewhat reduced. If there she is then easily found.

The stock remaining on the original site may then have another chamber of foundation and two combs of brood as

"The 'White Star' Nucleus I had from you has been splendid. I have now made them into three stocks. I got other nuclei from two other places at same time, but I have had nothing but trouble with them." W. P.
Grange, West Kirby.

before, as this lot will be more crowded than when so treated the first time. After another three weeks of careful attention this lot may be divided, and the lower chamber removed as before, and treated as presently follows. But it should not be forgotten that the foundation in the upper chambers will be more rapidly completed and filled with brood if the more advanced combs are judiciously spread by inserting between them the outer sheets as the bees can safely be extended.

YOUNG QUEENS REARED FOR THE FURTHER DIVISIONS.

The queenless bees in these removed chambers will rear several queens from their own brood, or from any selected comb of eggs supplied, and on the tenth day of removal from the original site the combs may be divided into two or more lots as required, each being provided with a nearly mature queen cell. Thus the two chambers removed will make anything from four to ten lots that can all be built up to stocks by judicious feeding. Probably also the main stock left on its own stand will swarm if not also divided, or supered, if not too late for the latter purpose.

"The 'White Star' queen you sent me last year has done splendidly. She has wintered well, and her stock is ahead of any I have got, or any I have seen around here. They are ready for the supers any time, and I am extra well pleased with her." J. S.
Ayrshire, April 12.

SUPERING A NUCLEUS.

Probably it is more profitable in the end to work a nucleus for increase the first season, if only making it into two or three lots; but if honey is desired, and the stock is completely crowded on ten or eleven combs in time for the white clover or limes in July, as with any other stock, the most surplus is not to be secured by "just supering."

Many owners super their stocks before they are ready, without the least idea that they may possibly want feeding, and have not enough coming in to create any desire for surplus comb-building.

(To be continued.)

Stocks at Nucleus Rate; Nuclei greatly reduced for 1921. S. SIMMINS, Queenland, Heathfield, Sussex.

Legislation for Bee Diseases.

We have said all along that Legislation for Bee Diseases presents no "menace" except to the unscrupulous bee-keeper and the commercial adventurer, who care nothing about the prosperity of the craft as a whole, but are simply interested in their profits *at the expense of others*. The overwhelming majority of bee-keepers in this country share our views. Those few who sincerely believe that legislation will hamper instead of advancing the best interests of the craft are either not in sufficient contact with the supporters of legislation, and consequently are not in possession of all the facts of the case, or are simply hypnotised by the pretensions of the unscrupulous opponents, whose familiar methods and arguments we can afford to ignore, although we have advised our readers *not* to treat them as negligible when they exceed all the limits of forbearance. Tolerance and patience have limits, and strictly speaking they are not deserved except by the clean fighter. The dirty fighter, finding himself beaten again and again, is squealing about the "menace" of legislation, and is adopting vigorously his dear old method of camouflaged libel. To the activities of a certain clique is entirely due any discord that may exist among the craft, and which should never have arisen. They lose no opportunity of creating and spreading widely all kinds of misrepresentations. And

WHAT ARE THEIR ARGUMENTS?

These are, of course, endless, *but to reason is beyond them*. And why should they *reason* if they mean at all costs to disparage and discredit those against whom they have an old, though unjust, grievance? The public must be made fools of, and must play into their hands.

They argue that the introduction of legislation is incompatible with the financial state of the country. The Ministry of Agriculture and the Treasury, according to their line of arguments, are incapable of deciding for themselves when to proceed and when to temporarily stop the advance of the Bill! Bee-keepers, they suggest, know more about the finance of the country than the Treasury, and will do a great public service by asking for the withdrawal of the proposed legislation! They argue that last year's February conference, representative of all the Bee-keepers' Associations of the country, was a "packed" conference, and that those who called the conference were careful not to invite any opponents of legislation. Whatever may be said against its constitution, no impartial person can possibly deny that the basis of representation in it was by no means limited to a selected party. Those who were not directly invited were thought to be sufficiently represented indirectly, and taken all in all the conference was, indeed, entitled to claim in the broad sense a reasonable representation of the craft. No one who has followed its proceedings can reasonably deny that the overwhelming majority of the delegates were not only in favour of the principle of legislation but also of its early introduction on the lines proposed. To describe such a conference, which the opposition did not fail to take part in, as "packed" in the objectionable sense is ludicrous and contemptible. There were many there whose views we do not know, but a few names from the list will suffice to utterly demolish that argument, viz.: Messrs. John Silver, C. B. Bartlett, G. Barratt, J. Allbon, E. C. R. Holloway, and G. E. Rogers, the last two representing the Cambs. B.K.A., and Mr. Barratt is the secretary of the Sheffield B.K.A., so far as we know, the only two Associations in England opposed to legislation.

They argue that this amendment or that is desirable in the Bill, and with the same voice they artfully and evasively disclaim any intention to support the Bill, should such amendments be introduced! Yet these same people never suggested such amendments when the Bill was patiently read and explained clause by clause at the above-mentioned conference, nor did they suggest the convention of a second conference and a consultation with their Associations in the interval between the two. Needless to say, we cordially support all reasonable amendments, irrespective of their source, and we certainly would have liked ourselves to suggest some alterations, but there are the legal and administrative aspects of the case to be considered. The elasticity of the Bill was thought adaptable to changing circumstances without infringing on the powers that would be given to the Ministry. It would be superfluous to emphasise in detail that the M.O.A. fully realise that the good-will of the craft is essential for the successful application of legislation, and that there is absolutely no question of fanaticism or partiality having its way, were even such fanaticism or partiality in existence. *The Bee Advisory Committee that will be set up, for the purpose of judicious and gradual application of legislation, is in itself the most satisfactory safeguard.* Reasonable critics who did not admire the

Bill or the February conference above mentioned, did *not* hesitate to record their appreciation of the Ministry's impartial efforts.

They argue that the secret Charing Cross meeting, convened under artful pretensions, and of the proceedings of which and the names of those who attended it no information has been published, is more worthy of consideration than the open representative conference previously convened by the Ministry of Agriculture!

They argue, even now, when it is distinctly obvious that the interests of the trade will be fully safeguarded, that the Ministry mean by legislation to crush the bee-keeping trade!

They argue that the small bee-keepers, whose aggregate produce forms the *bulk* of our honey, should be at the mercy of a few vested interests, and that the conscientious small bee-keeper is not worthy of so much respect as the unscrupulous commercial bee-keeper, with a high percentage of his hives empty and infected!

They argue that a Ministry that issues a condensed leaflet on queen rearing for small bee-keepers, which has become sufficiently popular as to merit more editions and enlargement, is not a Ministry that knows anything about the fundamentals of bee-keeping!

They argue that the Ministry's expert is so inconsistent as to condemn Dutch bees one day and recommend them on the following day, but they totally ignore the fact that he has *never recommended their importation except as media for the introduction of Italian queens.* Pure Italians need no praise, and as for Italian "hybrids" they are not less known as amongst the real "hustlers."

They argue that it does not suit their interests to leave bee-keepers within their independent organisations but they must have them under the thumb of a clique that would shelter the culprits, and so they find the present opportunity of the introduction of legislation admirable for their purpose. You can have the honour of serving them at a small fee, which you have to pay!

They argue that the *B.B.J.*, which has well served the cause of legislation by opening its columns to all they wanted to say, has tricked them by having no quarrel with them, and by leaving to its readers to see through their selfish and commercial aims—therefore it matters very little to them who is its past or present proprietor. Both alike must be abused. Indeed they have no hope of carrying on their pretences without some sort of abuse, and must indulge in personal tactics, inspired mainly by jealousy.

They argue that while it suits their purpose well to invent calumnies against others it will serve the same purpose to invent virtues and achievements for themselves, and of adopting what they falsely attribute to their betters. . . Any good man whose services is needed for their gain and refuses to be their puppet becomes a "marked" person. Any idiot who dances to their tune becomes a hero!

They argue, with a pseudo-scientific air, which simply means that bee-keepers should ignore the existence of infectious bee diseases and the reasonable safeguards that are necessary to check them, until no scientific researcher would say that there is anything further to be done in relation to bee diseases! And so the merry round of insinuations, misrepresentations, and pretentions continues. . .

THE COMING OF LEGISLATION.

Readers of the JOURNAL are in no need of the repetition of our assurance that the cause of legislation is steadily marching forward, according to the overwhelming desire of the craft and in spite of the general situation of the country that has been hampering the progress of many Bills, for this is not the only one that is postponed, and on the same grounds—the necessity of economy. It is indeed superfluous to remark that the methods of the "big stick" are foreign to British traditions; and whatever measure is proposed or adopted by the Ministry of Agriculture in relation to bee-keeping, we feel confident it will be inspired and applied by the sole motive of public service. Every conscientious bee-keeper who is bound to be anxious over the progress of the industry in Great Britain must continuously do his plain duty, by supporting the bee-keeping policy of the Ministry of Agriculture. If you have not yet expressed your support as already suggested in the JOURNAL, do it *now* and urge your friends to do likewise.

The Artificial Comb.

The progress of the artificial comb in the U.S.A. to the extent reported in the *Domestic Bee-Keeper* for December, 1920, of a daily production varying from 1,000 to 3,000 combs is something worthy of note by those interested in the development of modern bee-keeping. Such a rate of production is remarkable in a country where commercial competition is exceptionally keen and large commercial establishments are not generally tolerant of new rivals. Indeed, that was the crucial point which took the Duffy-Diehl Company of Pasadena, the proprietors of the Macdonald Comb, no less than five months to tackle

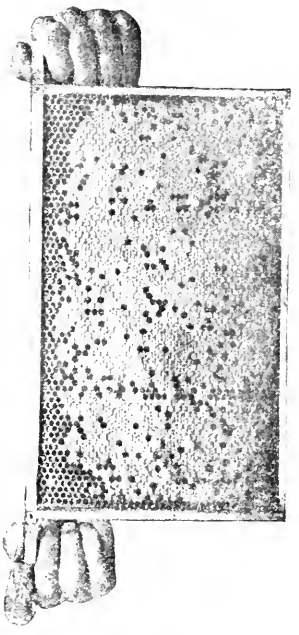
before finally succeeding in evolving suitable machinery for competitive production.

These facts, which we gather from the forementioned contemporary, are specially interesting in view of the work already accomplished in this country. Our readers will recollect the notes which appeared in the JOURNAL during the past two years on both the metal comb and the metal foundation, on which a demonstration was given by Dr. Abushâdy at the offices of the B.B.K.A. on November 7, 1919, and reported in the JOURNAL the following week. Such scientific work conducted in this country, which is necessarily a team research work, requiring the co-operation of the competent engineer, the conscientious manufacturer, and the scientific beekeeper with an open mind, apart from the requisite financial assistance, did not quickly bear fruit for the simple yet essential factor of the engineering assistance which did not materialise. This unfortunate difficulty, however, did not discourage the determined investigators, who have at last succeeded by a simple and effective process in evolving a series of equipped hive frames, ranging from a developed metal foundation to a complete metal comb.

In the U.S.A. and many other countries the metal comb has won both appreciation and criticism. There are undoubtedly both prejudiced admirers and critics; but, taken all in all, the concensus of opinion seems to favour an article more in the nature of a developed artificial foundation than a complete comb; and that, with simple insulating precautions, such an article could be utilised to advantage both in the brood chamber and the super.

Since modern bee-keeping is nothing more or less than utilising the natural habits of the honey bee to the advantage of its master on methodical and scientific lines, the advice is rightly given that it is more correct to fill the brood chamber either with wax combs or artificial combs and to entirely *avoid* intermixing as a routine if the best results are to be obtained. A swarm, accordingly, would mark an ideal start. For insulating purposes, two substantial "dummies," one at each side of the brood chamber, will serve the purpose of a side protection; and if a W.B.C. or similar hive is in use, no further protection is needed, with the exception of adequate packing, *both summer and winter*, so as to ward off excessive heat and excessive cold respectively. It is also correctly advised that wintering bees on bare metal combs (*i.e.*, crude combs which have not been worked out during the season) is totally incompatible with the science and practice of bee-keeping.

Apart from the experiments conducted at the research apiary of the Apis Club during the past two years and duly reported on in the bee Press, the following reproduction of a photograph taken at the apiary of Mr. Gilbert Barratt, of Sheffield, will show how helpful a metal comb will prove to be in experienced hands.



The brood area, as the illustration shows, is an impressive one, extending almost to the frame bars and approximately to the level of the hive entrance. Those who have used metal combs as they should be used, namely with ordinary insulating care which includes just the requisite number of combs, assure us that such a specimen from a strong colony is by no means exceptional, and that the occasional bad results are entirely due to lack of competence or to lack of aptitude for adaptation on the part of the conservative bee-keeper, who under the circumstances should have stuck to his wax combs.

Readers of the JOURNAL will now have an opportunity of examining at the B.B.K.A Museum a presentation specimen of "Adminson's Semi-comb" in British standard size. It represents the net result of the experimental work conducted in this country during the last three years, and which is calculated to meet the requirements of the public by providing the most advantageous compromise between the rudimentary wax or metal foundation and the complete metal comb.

As its name implies, its cells are half

in depth that of natural cells. It is certainly well made, and is a real pleasure to handle. Those of us who like a good depth of wax for bees to cluster on in winter will more favour this article than a complete metal comb. We shall be pleased, however, during the coming season to publish notes from our readers on this invention.

To save unnecessary trouble, we would remind secretaries of societies desirous of exhibiting the "Semi-comb" not to write to us, as the presentation specimen referred to belongs to the B.B.K.A.; and being one of the first specimens produced at a high cost during last year, it is of special historical value, and therefore its loan is not likely to be risked by the Association.

A Dorset Yarn.

The bee-keepers who are fruit growers as well might do well to study the families of plants *to which bees resort*, and which give us the most honey. Many flowers have nectar, but other families of bees seem to haunt them more than do the honey bee. Some have so many insects on them—the Michaelmas daisy is one of them; the ivy that blooms early in autumn is another that has all sorts of flies, as well as the order to which the honey bee belongs. I have written at length of the humble gooseberry and black currant; the flowers of peaches, plums and cherries will be an object lesson to those who have an interest in the "Mechanisms of flowers"—how some of them are easily fertilised by their own pollen, and some that are totally impossible of self-pollination. In plums the anthers and stigmas seem generally to ripen together, but the stigmas elongate, while only the outer lines of stamens can at any time reach the stigmas, as they ripen at the same time bees carry pollen to the stigmas. If dry when in flower, I believe they are largely fertilised by wind, but some of them never fruit regularly, as the stigmas are slightly above the ripe pollen. These varieties depend on insect pollination, and can only be pollinated by wind when the weather is dry, as the rain wets the pollen, and it could not be driven by wind on to the stigmas, but as soon as the weather is fair bees will carry pollen from fresh open flowers where it has ripened to the stigmas of flowers where the pollen has been washed off the anthers by rain. Those that fruit regularly, like Czars and the Reine Claudes, like Pershores and Victorias, are self-fertile; the stamens dehice their pollen at different stages, so that if weather is bad on one day it will be fine on another, and the pollen that opens will be of service for the pollination of the stigmas in the same flower. Müller states that "cross-fertilisation is favoured by insects (mostly *Apis mellifica*) touching the stigmas and anthers by the different parts of their bodies while sucking honey." Those varieties like Rivers Early, Kirke's Blue, and Washington must have the pollen taken to the stigmas from other flowers, or there will be no fruit. These varieties are not species. Species of plums all seem to be fertile with their own pollen, but these crosses which have been raised by the fruit raiser destroying the anthers in one flower and carrying pollen from another to pollinate the stigmas, have brought a race of plums that do not readily fertilise themselves. To get the size, they have crossed from varieties that do not have the same character as the parent; the anthers are too short to reach the stigmas. As I mentioned before, the anthers dehice their pollen at different stages, so is the length of the anthers different, the centre the shortest. They get longer toward the outer rows, and it is these outer rows of pollen-laden anthers that can be of use in fertilising the stigmas. Wild plums generally fruit regularly, where choice ones like Kirke's and Jeffersons only rarely, if not pollinated by insects. It seems a wonderful provision of nature that this should be so (there always seems so much pollen in the flowers), and that some should be opened in different varieties at later stages, thus enabling the stigmas of flowers where the pollen had been spoilt by wet, or had been blown away by wind to be fertilised.—J. J. Kettle.

Jottings from Huntingdonshire

February moves on and shows no sign of living up to its tradition of filling the dyke. On the contrary, the dykes are dry, and the ponds low, and even the brooks have barely sufficient water for flowing. From a bee lover's point of view this is not good. Things are too forward, the fruit trees are in a condition that suggests the end of March. Late springs are best for fruit, and therefore preferable for bees. Besides, the blossoms that are pushed forth are not what they would be but for the drought, and the box bloom would improve under a few showers. The birds are merry enough through it all, and some are even nesting and depositing eggs. The songs of the thrush in the early morn are incomparable, and it would be a hard heart that could not enter into the spirit of tree and hedgerow and enjoy it all.

Unless we get, as someone suggests, a second winter, I shall soon commence feed-

ing the bees with thick syrup—in the course of a week perhaps—it will be money well spent.

Mr. Hugh Houston has some pertinent remarks in last week's JOURNAL. He is only speaking common sense when he says that excessive swarming can be bred out of bees. Without a doubt swarming proclivities can be stimulated, so why not aim at a non-swarming bee? It will need patience and years of work, but it should be a fascinating task. It suggests close observation and care. Bees might appear disinclined to swarm owing to lack of stamina, enfeebled condition of queen, or the presence of some sinister disease. What we want is a vigorous strain of bees, prolific, hardy and good foragers which will not swarm unless compelled by contraction of space. Speaking of strain gives me an opportunity of preaching one more sermon on its value. Our egg-laying competitions always show the same breed of bird near the top and near the bottom. I have frequently noticed that Wyandottes when carrying off first prize have had cousins at the bottom of the list. It is not then sufficient to be able to call your bees pure Italian or pure Dutch or pure Carniolan, Egyptian, Tunisian, or whatever the breed may be, nor pedigree British blacks, one must go farther and be able to add the name of the strain. The advertisement columns of this JOURNAL show that not a few apiculturists are keen on strain. I have seen Italian queens as pure as it was possible, and as beautiful as imaginable, which have been content with four combs as their laying ground: others quite pure and not so beautiful fill up comb after comb with brood. If I have any complaint to make against many queen rearers it is that they bend their endeavours too much in the direction of raising beautiful queens rather than utility queens. One knows how practically impossible it is for poultry to win prizes both in the show pen and the laying competitions. First-class layers cannot be got up for the show pen, nor can show birds be first-class layers. Strength, stamina and laying proclivities are what we want in our queens—we will forgive defects in colour and marking if these virtues are present.

The wind has shifted to the east, but is very kind, so much so that but for the weather cock one would scarcely perceive in which quarter the wind lay. Let it move southward and the much-needed rain will fall, refreshing the earth, but turning our delightful lanes into byways of mud. Never mind, we are anxious to see a bumper honey crop this year, and this is certain if the weather will be seasonable. —E. F. HEMMING, Steeple Gidding, February 19, 1921.

Safe Wintering.—III.

BY D. M. MACDONALD.

My first two contributions have dealt with a number of what I have called *prime* factors. This, and a succeeding one, will deal with what I may designate *minor* factors. Although they may appear small, and, in a way, insignificant, yet it will be quite a mistake to neglect them, or treat them as if they were of no importance. Bee-keeping is a small industry, one of the *petite* cultures, bees are small insects; a large part of successful apiculture depends for a full measure of profit on a number of small items.

The entrance is only a small fractional part of the whole hive, but on the care of that tiny doorway hangs a considerable part of successful bee-keeping. Neglect its contraction at the beginning of the season of semi-repose, when winter packing, and several evils will almost inevitably follow. November and December's bitter blasts may not only blow in to the discomfort of the inmates, but they frequently carry in drifting snow, sleet, or hail with effect, working havoc at times. The cold, icy winds alone may reduce the interior temperature to such a degree that the outside crust of the cluster may be so chilled that death will claim hundreds or even thousands of victims. If the passage way is too deep it may afford a free entrance to such small and troublesome vermin as field mice. Finding themselves in warm and snug quarters, furnished with an abundant supply of such a toothsome and dainty food as honey, and with a rich store of nest-forming material such as the coverings afford, the wise creatures make themselves quite at home. In most instances the fate of that colony may thus be doomed. Bees detest the presence of Mr. and Mrs. Mouse, their stores dwindle, their combs suffer, the unpleasant odour becomes a nuisance, and life in that hive becomes not worth living.

The remedy is simple. Contract every entrance on the approach of winter. And yet my next advice is to leave a large entrance in order that ample ventilation may be given. The paradox thus presented is not self-contradictory. Leave your entrance slides well apart, but place a sheet of finely-perforated zinc connecting the inner ends. In this cut an *actual* entrance and exit measuring only about $\frac{3}{8}$ in. by $\frac{5}{8}$ in. in length, some may prefer $\frac{1}{4}$ in. by 1 in. This not only effectively excludes all mice and other small vermin, but it prevents too much of a rush of bitter cold driving wind to find its way in, and, of course, helps to exclude the influx of snow, sleet, or wind-driven rain. This sheet of zinc should be tacked pretty firmly in front so that it may not be pushed out of

position by would-be intruders; a provision which is of more importance than many believe.

In the south the two following small but important, if not indeed essential, provisions may not be necessary: but in the north they are generally of very great value in enabling a colony to come out strong in spring. With snow on the ground and a bright sun shining in a cloudless sky, bees are often tempted out when the temperature is too low for their comfort and well-doing. Hundreds, often thousands, fly about until wearied, and then sink on the snow to die by finding an untimely grave. If the snow crusted they may recover and return. If it is soft the more they strive to get up the more they sink, until they chill and die. A shade board placed slantingly in front of each hive is a very important saver of bee life, at a time when every single bee is of the greatest value.

A storm door is another form of appliance for excluding the sun, for preventing fierce blasts penetrating to the interior, and for adding to the bees' comfort. Something more complex, and, perhaps, more conservative of bee life in the course of an Arctic winter is found in the "Claustral" hive, which allows of a *cloister* chamber in front of the genuine brood compartment. It will be found illustrated and fully described in the "Guide Book," on pages 50-54. It might pay if many more of these hives were in use than the small number now to be seen.

Bees have an instinct which guides them in late October in so arranging their stores that later on they are readily made easily available. All cells covered by the cluster get exhausted in course of time, but a prescient wisdom teaches the bees to seize on any spell of milder weather to rearrange their reserve stores in a new position, just where they are required. When winter packing don't seek to arrange combs to suit your taste, leave this to the bees. I don't set great store on candy supplies during winter, but would give my favourable consideration to the idea of using two or three cakes to form "overhead bridges" or "tunnels" to aid the bees in breaking cluster without bringing on a chill in severe weather. Brace combs also serve a like purpose when found above frames. Leave the removal of any such to the period of spring cleaning. Various other "devices" have been very highly recommended for this useful purpose. Where the bees can carry on the transit of stores in rearranging by means of an overhead passage way the fear of loss from chill is very much minimised, if not, indeed, nullified.

When taking a momentary peep during winter from overhead, or when supplying new cakes of candy, be very careful to smooth down the various layers of packing material, as any leaking may work serious harm by aiding in an escape of heat. Conserve heat in every way you can right through winter and spring.

Somerset Bee-Keepers' Association.

The annual general meeting of the Association was held at Weston-super-Mare on Saturday, February 5, when Mr. T. W. Cowan, F.L.S., F.G.S., etc., presided over a representative gathering of about fifty members

Mr. L. Bigg-Wither (hon. secretary), in the course of his report, stated that from a honey point of view 1920 would long be remembered as one of the worst years on record.

The report and accounts were unanimously adopted.

Mr. B. Boothroyd then proposed a vote of thanks to all retiring officials, which was seconded by Mr. W. West, and carried.

Mr. T. W. Cowan was then unanimously re-elected president for the coming year.

Mr. L. E. Snelgrove, in proposing his re-election, said that the Association was most fortunate in having Mr. Cowan in Somerset, and hoped that he would be their president for many years to come. Everyone knew that he took the greatst interest in the Association, and his life-long experience in everything connected with apiculture was a tremendous asset to the Association.

Lieut.-Colonel Jolly seconded the proposition, which was carried with acclamation.

The following vice-presidents were re-elected:—Rt. Hon. the Earl Waldegrave, Rt. Hon. H. Hobhouse, C.C., Lieut.-Col. H. F Jolly, G. A. Wills, W. Garnett, A. E. Staley, J.P., E. Walker, Dr. P. A. Colmer, W. Melville Wills, Mrs. H. W. Kettlewell, Mrs Bonville Fox, L. E. Snelgrove, M.Sc., Lieut.-Col. Marwood-Elton, J. Jackson Barstow, J.P., Mrs. R. Graves Knyfton: and Dr. J. Wallace was elected in addition.

Mr. R. G. Harris was re-elected hon. auditor and Lieut.-Colonel H. Jolly and Mr. J. Spiller were nominated as delegates to the British Bee-keepers' Association.

Mr. L. Bigg-Wither was re-elected hon. secretary and treasurer, after being cordially thanked for his past work.

Mr. T. W. Cowan then presented the Challenge Honey Pot given by Colonel Jolly to the competitor gaining the highest number of points at the Association's honey show. This was won by Mr. G. Greedy, of West Monkton, who also received the B.B.K.A. Bronze Medal.

Preliminary examination certificates were then presented, Messrs. P. Bray, W. Cook, E. G. Hawkins and F. C. B. Jefferies having passed the test the previous summer.

A discussion then took place in connection with the amended rules and regulations, which, owing to the de-centralisation of the work of the Association, were necessary.

After tea, Dr. J. Wallace, of Weston-super-Mare, gave an exceedingly interesting and instructive address on the so-called "Isle of Wight" disease. He briefly but clearly described the research work which had been undertaken from the time of the Government's first investigation down to Dr. J. Rennie's recent discovery. The lecture was greatly appreciated by all who still believed that the scientist rather than the purely practical bee-keeper would be the one to solve the problem of this disease.

(*Communicated.*)

Kent Bee-Keepers' Association.

The annual meeting of the Northern Division of the Kent Bee-keepers' Association was held in the Guildhall, Rochester, on Wednesday, January 19, Mr. W. Wilson presiding.

The annual report, submitted by Mr. G. Bryden, showed that the membership had increased from 121 to 138 and that interest in the work of the Association was gradually becoming more pronounced, in spite of 1920 being an adverse season for bee-keepers and one of the worst seasons for honey of the century. Very little had been heard of "I.O.W." disease, which spoke well for the division.

The finances of the division were satisfactory, the receipts amounting to £29 19s. 11d. and the expenditure to £13 14s. 3d.

The report and balance-sheet were adopted, and a vote of thanks accorded the committee, on the proposition of Mr. Whitehouse, seconded by Mr. Smith.

Retiring members of the committee were re-elected. The resignation of Mrs. Bryden and Miss Featherby were announced, and it was left to the committee to co-opt other ladies. Mr. W. Wilson (Darenth) was re-elected chairman, Mr. G. Cook (Gillingham) vice-chairman, Mr. G. Bryden (Rochester) secretary and treasurer, and Mr. F. Fry (Gillingham) assistant secretary.

Messrs. Fry, Semper and Rev. J. Butler were elected representatives to the Council, and a vote of thanks was accorded Messrs. Carter and Spain, the auditors.

Mr. J. Herrod-Hempsall, F.E.S., followed with a lecture on "Bee Diseases." He dealt at considerable length with the various kinds of foul-brood, explaining how they may be distinguished and cured, making his points particularly clear with the help of very excellent lantern slides. The lecturer then passed on to diseases of the adult bee, the most serious of which is "I.O.W." disease, showing very clear slides of microbes which were supposed to cause this disease and the various symptoms of affected bees, coming right down to the very latest discoveries by Dr. Rennie and his assistants at Aberdeen.—(*Communicated.*)

Sheffield and District Bee-Keepers' Association.

ANNUAL GENERAL MEETING.

The eighth annual general meeting of this Association was held on Saturday, February 12, 1921, at the Tontine Café, Sheffield, and, in the absence of its President, the chair was occupied by Mr. S. Livsey.

The Hon Secretary, Mr. W. Garwell, presented the report and balance-sheet for the past year, which showed a large increase in the membership. An Association Apiary has been established in the Botanical Gardens, Sheffield, by kind permission of the Town Trustees. A lantern lecture has also been given at the Sheffield University, also five open-air lectures during the year, and there was still a very substantial balance at the bank in their favour.

The Chairman, in moving the adoption of the report and balance-sheet, commented on the very favourable report, and also the very satisfactory balance-sheet. Mr. P. Ridge, in seconding the motion, said "he wondered if the Secretary had any Scotch blood in his veins," because he always seemed to make sure he had a satisfactory bank balance in the Association's favour. The report and balance-sheet were unanimously adopted.

W. T. Garnett, Esq., was unanimously re-elected as President.

The following Vice-Presidents were elected:—J. D. Outram, Esq., C. M. Hansell, Esq., Eric J. Outram, Esq., T. H. Nelson, Esq., and F. Scott, Esq.

Messrs. Wm. Basforth and C. M. Hansell were re-elected auditors; Mr. P. Ridge, Librarian; and Mr. W. Garwell was re-elected Hon. Secretary and Treasurer.

The following Committee were elected:—Messrs. S. Livsey, J. Palmer, P. Ridge, Wm. Bashforth, T. Nelson, E. W. Hodgson, W. Barlow, J. P. Williams, C. Haynes and Mrs. Turner.

On the motion of Mr. Barlow, a vote of thanks was extended to the Secretary for his untiring efforts for the Association's welfare during the past year, and also to the Chairman for presiding at this meeting.

A most enjoyable concert followed the meeting, kindly arranged by Mr. P. Lawson, which was well-attended, and much appreciated by those present.—*(Communicated.)*

South of Scotland Bee-Keepers' Association.

ANNUAL MEETING.

The annual general meeting of the South of Scotland Bee-keepers' Association was held in St. Mary's Hall, Dumfries, on Saturday, February 5, when there was a large attendance of members, over which Mr. Marrs, president of the Association, presided.

A report and balance-sheet for the past year was submitted, which showed the season 1920 to have been the most disappointing on record from a honey-producing point of view. An increase of 78 in the membership was noted. The Association's expert had conducted a nine weeks' tour of instruction within the area. The much-dreaded scourge of "I.O.W." and other diseases had been aggravated by the abnormal season. Medals had been offered by the following local Societies, as an inducement to apiculture:—Eaglesfield, Moffat, Thornhill, Kirkcudbright, Dalbeattie, Stranraer, and Newton-Stewart, but owing to the majority of these associations being in abeyance, not having revived since the war, Stranraer and Eaglesfield were the only acceptants.

In the discussion which followed, it was decided to withhold medals during the ensuing year. Certificates for efficiency in apiculture had been awarded by the Scottish Bee-keepers' Association to the following members:—Expert Beemaster—Mr. James K. Greig, Closeburn; Beemaster — Mr. Whitford, Ardwall; Miss Jean Halliday, Dunmuck; Mr. Colthard, Hoddam Mill.

The ordinary sources of revenue had been supplemented by subscriptions from patrons and by grants of £7 10s. from Kirkcudbrightshire Education Authority and £5 from Wigtownshire County Council.

The Chairman, in summing up, said the report was perhaps not very encouraging, which was no doubt due to the adverse season and the high cost of everything associated with maintenance. He took the opportunity to extend the association's thanks to patrons, without whose support the Association would have experienced great difficulty in meeting its liabilities, and to all who had in any way assisted the general programme. He was sure members of the craft generally would accord their gratitude to Dr. Rennie for conscientious and painstaking research in connection with "I.O.W." disease. The Association also owed thanks to Mr. A. H. E. Wood, of Glassel, without whose financial support research would in all probability have been curtailed.

It was decided to arrange for the usual course of instruction in each county, also that the Association become affiliated with the Scottish B.K.A., and that the Association's honey show be continued as formerly. The prize schedule and rules were revised, and a representative list of office-bearers was elected, with Mr. Marrs as chairman and Mr. Halliday as hon. secretary and treasurer.

At the close of business Mr. Tinsley, West of Scotland Agricultural College, addressed the meeting, explaining the new discoveries in connection with "I.O.W." disease, which revealed the existence of a hitherto unknown type of parasitism in bees, the breathing system being invaded by a very small mite belonging to a genus known as Tarsonemus. Mr. Tinsley explained the various stages of development which ultimately cut off the supply of oxygen from the surrounding organs. Mr. Tinsley also explained in detail the Bee Diseases Bill.

At the close of the address the Chairman said it would be interesting to know the feeling of the meeting on the matter. For himself he could see both advantages and disadvantages in the proposed Bill.

The vote resulted in a great majority in favour of legislation.

Votes of thanks to Mr. Tinsley and the Chairman brought the meeting to a close. —*(Communicated.)*

Specific Gravity of Honey.

[9920] I should be much obliged if you would tell me the specific gravity of average quality honey at 60 deg. I am puzzled at statements I see. In the *A. B. J.* for this month it speaks of variations between 1.37 and 1.443, and Mr. J. Hopkins mentions 1.42. I understand that if honey weighs 12 lb. to the gallon it is good, and this means 1.2 for the s.g.—A. WHITE.

REPLY.—The specific gravity of the

different kinds of honey varies considerably. Sometimes the bees gather a liquid which is little more than sweetened water. At other times the nectar stored in the cells is so dense that it solidifies before the bees have time to seal it, as in the case of ivy and heather honey. Good clover honey, extracted after being sealed, has a specific gravity of 1.370, taken at 60 deg. Fahr., which may be taken as the average specific gravity of British honey. A cubic inch of pure (distilled) water weighs .0361 lb. Hence .0361 × 1.370 gives .04945 lb. as the weight of a cubic inch of clover (average) honey. Therefore .04945 × 277.27 (= cubic inches in an imperial gallon) gives 13.7146 lb. as the weight of a gallon of average honey, or, in round numbers, 13¾ lb. to the gallon. Your understanding of 12 lb. to the gallon only holds good in the United States of America, where the old wine gallon, smaller than our imperial gallon, is in use. Its capacity is only 231 cubic inches, whereas ours is 277.2 cubic inches, and would contain the amount stated above. —EDS.

Special Prepaid Advertisements.

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***Trade** advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as "**Business**" Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* **3s.** *per ¼in., or* **5s.** *per inch.*

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PRIVATE ADVERTISEMENTS.

SOLID brass Revolving Turntables for observation hive, tapered cones, diameter 7½ in. (new), 21s. the pair.—WILLIAMS, 17, Aveling Park Road, Walthamstow, E.17. m.131

OFFERS REQUIRED.—Two strong Stocks Bees in good hives, one empty Hive, three Section Racks, fitted up, two Queen Excluders and Clearer; owner going abroad; f.o.r.—DRAKE, Chilbolton, Stockbridge, Hants. m.132

25 PURE ITALIAN STOCKS, £5 5s. each; 15 Italian Hybrids, £5; 20 Blacks, Italian strain, £4; travelling boxes 10s. extra, returnable. Guaranteed healthy on arrival. Great satisfaction given to all customers last year.—J. YOUNGER, 6, Maid's Causeway, Cambridge. r.m.133

LIGHT CAMBRIDGE HONEY, guaranteed pure, 13-lb. tins, 21s. 6d.; 28-lb. tins, 45s., carriage paid.—J. YOUNGER, 6, Maid's Causeway, Cambridge. r.m.134

EXPERT, 2nd Class, requires salaried post or Partnership; has capital available for establishing out apiaries in any first-class district.—Box 10, 23, Bedford Street, Strand, W.C.2. m.138

WILLOW-HERB, continuous bloom, roots 2s. 6d. dozen; Wild Hyacinths (Blue Bells), 2s. 100; carriage paid.—BRUMPTON, Thorpe Common, Rotherham. r.m.139

SHALL have a few surplus 3-frame Stocks to dispose of May-June, 40s. each.—HURST, 14, Foxgrove Road, Beckenham. m.141

WHITE WYANDOTTE EGGS, 8s. 6d. dozen, Cam's; splendid winter layers. Chicks booked.—CHITTY, Burleigh Farm, Cassington, Oxon. r.m.142

FOR SALE, Stock Italian Bees, two Hives, Appliances.—Ivy Cottage, Beacon Hill, Hindhead m.143

WANTED, gross Frames, Association and shallow, after any pattern, other things, cash.—Old Rectory, Sporle, King's Lynn. m.146

FOR SALE, two 30-lb. tins fine Light Evesham Honey, 1s. 9d. per lb., f.o.r. Cash with order.—E. BALLARD, "Beeholme," Aldington, Evesham, Worcestershire. m.147

HEATHER HONEY for Sale; Sections, price 3s. each.—KNOWLES, Thursley, Godalming. r.m.137

QUESTIONS FOR YOUNG NOVICES.—How many bees to the pound? Write down any numbers you like. Subtract from these the sum of the digits. Cancel any digit from the numbers obtained, re-arrange the remaining digits in any order you please on a postcard, and post it to us By return we will tell you what figure you cancelled. If we make a mistake you get a box of Pollard's best Cambridge Candy.—S. H. SMITH, 30, Maid's Causeway, Cambridge. m.144

TWO old Hives and two Skeps, £1; Extractor and one new 12-frame Hive and rack of sections, frames fitted with foundation, £3. Offers for lot.—The Farm, New Dale, Wellington, Salop. m.151

FOR SALE, honey-fed Bees, never had any disease, 6 frames with their queen and stores as they have come through the winter, £4 10s.; cash with order; balance of 10s. returned after travelling box is received by me and carriage of bees deducted.—MRS. REED, Reeds Farm, Heacham, Norfolk. m.153

EXPERT, 2nd class, requires post, home or abroad.—J. BRAY, Yanworth, Fosse Bridge, Gloucestershire. r.m.108

HONEY, excellent Wiltshire blend, 7 lbs., 13s.; 14 lbs., 25s.; 28 lbs., 48s. 6d., including tins.—PINDER, 2, Endless Street, Salisbury r.m.129

FOR SALE, Hive, Barrel-Extractor, Ripener, Veils, Frames, and all Accessories complete, £6.—JAMES ANDEN, Hillington, Jersey Road, Isleworth. m.107

HIVES AND BEES, 10 brood, 10 shallows, honey fed, £6 each.—SHAW, Primrose House, Heacham, Norfolk. m.124

WILLOW-HERB, distinctive and useful, twelve 2s. 6d.—BOWEN, Apiaries, Cheltenham. r.m.98

FOR SALE, Revolving Exhibition Observation Glass Hive, 3 ft. 2 in. x 2 ft. 11 in. x 5 in., very good condition, £11, carriage paid.—Box 5, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. r.m.91

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VACANCY for Pupil on the biggest Bee Farm in Surrey.—THE HEATHERLANDS BEE FARM, Thursley, Godalming. r.m.136

FEBRUARY "GLEANINGS" contains 48 pages of reading matter about bees, including articles on "Comb Honey Production," "Various Schemes for Wiring Frames," "Talks to Beginners," a page of Recipes, etc., etc. Only 7s. per annum, post free.—Order from E. J. BURTT, Manufacturer, Gloucester. r.m.87

STRICTLY BUSINESS.—Flavine Candy, 6 lbs., 9s., post paid. Made in Cambridge, and the wrappers bear our name.—S. H. SMITH, 30, Maid's Causeway, Cambridge. m.145

FOR the very best Italian Queens and Nuclei send for our Illustrated Catalogue, post free. American Langstroth Hives supplied from stock —LOCKWOOD & MANLEY, Bee Farmers, Hunstanton. r.m.149

MICROSCOPES, new and second-hand; Dissecting Lenses and 1-in. Objectives specially constructed for entomology. Lists free.—DOLLOND (Est. 1750), 35, Ludgate Hill, E.C.4. r.m.150

TRY our new Swarm Catcher, price 3s. 6d. each. —BUCKINGHAM BROS., Metal and Wire Workers, Warwick Road, Luton. r.m.148

9D. PER LB. HONEY FOR BEE-FEEDING.—White Australian, 60-lb. tin, 45s.; finest West Indian, 56-lb. tin, 49s. 9d.; case of four 7-lb. tins, 29s. 6d.; carriage paid 100 miles.—LONDON TRADING AGENCY, 32, St. Mary Axe, E.C.3 Tel.: Avenue 3883. r.m.152

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WHITE WYANDOTTE EGGS, 7s. 6d. for 13; White Leghorns, 288-egg strain, same price. —WELCH, Wickham, Hants. r.l.82

BEE WAY, to fix on alighting board; saves dwindling in spring; send for specimen; price 1s. each, post 3d.; one dozen, 10s., post 1s. 3d.—MICHELL, 66, Pembroke Road, Clifton, Bristol. r.m.140

1921 HIVES AND APPLIANCES.—Write for list to ANDREWS & CO., Hive Works, 78a, Westgate, Peterborough. Quality the best. Immediate delivery. l.71

"QUEEN is a far better sample than I have previously purchased from Italy direct.—S. J. F." Italians, Queens, 8s., Virgins, 3s. Particulars, stamp.—HOUSTON, Ellen Villa, Sidcup. m.155

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SPECIAL ANNOUNCEMENT. — Use Bowen's "New Process" Candy, valuable stimulent, arrests dwindling, 6 lbs. 8s. 6d.—BOWEN, Cotswold Queen Breeder, Cheltenham. m.122

HIGH-GRADE ITALIANS, "Golden All Over," heaviest honey-gathering strain obtainable.—Particulars from E. COOMBER, Breeder of Superior Golden Bees and Queens, 64, Ronald Park Avenue, Westcliff-on-Sea. m.128

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ADMINSON'S SEMI-COMB.—The latest achievement of scientific bee-keeping and modern engineering. In British standard, 16 in. x 10 in., and shallow sizes, the last with drone cells. Try it for the production of extracted heather honey.—ADMINSON, Benson, Oxon. r.m.119

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A FEW QUEENS AND NUCLEI of my "Shrinewood" Bees to spare, early summer; Queen, 12s. 6d.; Virgin, 5s.; 3-frame Nucleus, £2 15s. Twelve months' guarantee of freedom from "I.O.W." disease with each nucleus.—PETTIPHER, Shrinewood, Dolgarrog, North Wales. r.l.81

DON'T BUY BEES until you have seen our prices and guarantee. You risk nothing, as we return money in full if bees fail to give complete satisfaction. Illustrated Catalogue free on application.—PEARSON & GALE, Marlborough. l.17

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ITALIAN QUEENS, young, fertile, purely mated, disease free; safe arrival guaranteed. Price list on application.—GAETANO PIANA, Castel San Pietro, Emilia, Italy. r.l.83

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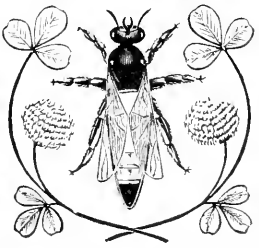

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SELLS CALIFORNIAN AND COLONIAL HONIES, carriage paid, tins and cases free, and pure Beeswax. Buys home-produced Run Honey, Sections and Beeswax. Offers of first-grade Sections, delivered carriage paid Cardiff, wanted immediately. Inferior pure Honey for Sale in 56-lb. lots, for bee food, 6d. per lb., carriage forward. All samples 1s. each. Terms, cash.

Italians. 10 Frame stocks, guaranteed free from disease, delivery this spring, carriage paid at following rates. Containing 4 to 5 bars of brood **£4-2-6.** 5 to 6 bars of brood **£4-12-6.** Cash with order.

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My Apiary will be open for a limited number of pupils during this season. Terms and particulars from

W. HERROD-HEMPSALL,

The W.B.C. Apiary, Old Bedford Road, Luton, Bedfordshire.

Our Bees and Queens are Second to None. Catalogue free. PEARSON & GALE, Marlborough

"Victory" Queens. Wonderful HoneyQueens at Pre-War Prices. "Victory" Queens.

Extraordinary Carniolan Strain crossed with our specially selected "White Star" Drones.

The remarkable Queens selected for this cross produced several enormous colonies, and many solid slabs of honey during the disastrous season of 1920

The young Queens from this remarkable mother, mated as above, will be offered at **10/6** each, and will meet the constant demand we have had in past years, requesting us to renew the breeding of Carniolans mated in our White Star apiary, as these had always given great satisfaction.

THE SECRET OF RAPID INCREASE

(continued.)

Certainly the vast majority of would-be bee-keepers super their stocks without first "making them ready," and without the least idea of carrying out any constructive manipulation for securing the best results. Readers of "A Modern Bee Farm" find concise methods of preparation that will double and treble the usual working populations; but here I will just mention that no stock should be supered without at least transposing the brood combs. The population will be much larger, the queen will have more room for depositing eggs, and there will be no room for the bees to crowd the stock combs with honey if the older or maturing brood is arranged near the centre, and the younger mostly uncapped brood set out to the ends.

This simple operation will generally result in at least double the surplus usually obtained from one brood chamber, but the above work treats of several methods of ensuring abnormal yields by using several brood chambers. It may be taken for granted that for every pound of honey crowding the brood chamber three are lost as a surplus.

"I never saw anything like your bees. I started with three strong stocks, and never knew bees work as they did. They averaged 175 lbs., and increased to nine." W. B. Owslebury.

HOW EARLY MAY STIMULATIVE PROCESSES BE SAFELY COMMENCED.

Uncapping Stores at Christmas. Extracting and Feeding Back Surplus Stores in February.

In the early days of the BRITISH BEE JOURNAL, Mr. T. W. Cowan used to report some very good yields of honey obtained from his apiary at Horsham, in Sussex. When asked by readers to give his method of spring preparation, his reply revealed a somewhat startling practice which, I venture to say, very few practical bee-keepers would care to follow to-day.

Merely uncapping the stores as a first step to stimulation was not good enough for that well-known bee-master in those early days of advancing bee-culture. He used the extractor about the middle of February, removing the excess of stores from one or two combs at a time, and placing these in the centre of the cluster for the bees to clean up, and thus start some considerable excitement, which in addition to the extracted food being fed back, started the bees well on to brood rearing.

Surely the seasons must have been somewhat milder and more settled than the early spring weather we often have had of late years. February of 1920 was an exception, and I remember at least one year in the 70's of last century that honey was gathered freely from the willows during February. But one would want to be assured he was well out of winter before following such a method of stimulative excitement.

Nevertheless, the extracting may very well be left for the bees to carry out more economically where combs are first uncapped and placed one at a time in the centre of the cluster; and this is a very good practice when the owner has patience enough to wait until February has been left behind.

(To be continued.)

Miss Moysey, of Somerset, states that from a W.S. Nucleus she made five stocks, sold two swarms, and three of the five stocks; and from the two remaining stocks sold honey to the value of over £40, all within two years."

"Words are all too poor with which to tell you how much I think of your charming book." Caersws, Mont. MRS. W. L.

Stocks at Nucleus Rate; Nuclei greatly reduced for 1921. S. SIMMINS, Queenland, Heathfield, Sussex

Legislation for Bee Diseases.

As an example of the continued faith in the value of bee diseases inspection on the other side of the Atlantic, it is interesting to know that the *Wisconsin Bee-keepers' Association* decided at its annual meeting held in Madison, last December, to ask the State Legislature to appropriate $10,000 annually for the inspection of bees and $3,000 annually for the promotion of the bee industry. It will be thus readily seen that American bee-keepers rightly look upon the control of bee diseases, and the general education of bee-keepers, as of far greater importance than other measures intended for the promotion of the bee-keeping industry.

We need not reiterate our views, which are shared by practically all our readers, as to the *urgent* necessity of introducing legislation in Great Britain if the restocking work on which so much labour and money has, and is being spent is to bear full fruit. It is also vital to the general prosperity of the industry. The Ministry of Agriculture itself, in its *Weekly Service* dated February 26, admits that "there is every justification for an appeal to bee-keepers throughout the country for a spirited endeavour to make the British market for honey self-supporting, and further imports from foreign countries unnecessary." British bee-keepers, in their turn, feel that there is every justification for expecting the Ministry to urge on the Government that an *economical beginning* could forthwith be made with bee diseases legislation, and that it is grossly unfair to injure the best interests of the bee-keeping industry in Great Britain by the present unjustifiable delay, which is the sole outcome of political stunts and election platitudes.

All conscientious British bee-keepers who appreciate the great help legislation would be, must *vigorously and constantly* remind the Government of their obligation. Individual reminders to the Ministry of Agriculture, resolutions from societies, and organised and representative deputations are absolutely vital for making the Government realise that they cannot successfully appeal to British bee-keepers to make the British market for honey self-supporting whilst the Government apply the principles of *false* economy to the most important measure of bee-keeping protection.

Bee-keepers' Associations all over the country will be holding their annual meetings during the next few weeks, and we suggest they again send resolutions from those meetings urging the necessity of legislation for bee diseases as early as possible, and protesting strongly against the postponement of the Bill, the only result of which is not a saving when compared with the loss sustained by the country owing to the ravages of disease—much of which is preventable—decimating the stocks of bees in the country, and the consequent waste of nectar which should be converted into one of the purest and most valuable foods.

We see no reason why a thoroughly representative advisory committee of bee-keepers should not at once be formed to consider the provisions of the Bill and suggest any amendments that may be thought desirable. The decision to form this committee was one of the wisest the Government made, and should be adhered to.

Our Clubbing Offer.

Readers of the JOURNAL and advertisers —many of whom have been regular supporters for years—will be pleased to know that we have arranged with the proprietors of the BEE WORLD, Messrs. Adminson, Ltd., a clubbing offer in the nature of a joint subscription to *both* papers for £1 per annum, commencing the third volume of our contemporary in June, 1921. This offer, however, is *not* retrospective, in the sense that it does not apply to subscriptions already arranged, and is limited to *full year* subscriptions. Applicants must forward receipts for reference unless the double subscription is paid through us.

Regular yearly advertisers in both papers will also be entitled, in addition to the usual discount, to 2½ per cent. further discount from each management.

By this arrangement we consider that we shall be rendering a good service to the craft by popularising the best bee literature produced in this country, which is considered representative of both schools of teaching and practice.

The JOURNAL has the unique position of being the only weekly bee periodical in existence. As a technical weekly, it is edited in a suitable style which for years has given help and instruction in their novitiate days to a host of prominent bee-keepers. Its few critics are its former pupils, and its pages are widely acknowledged as a valuable aid for the growing army of bee-men and women of all classes and professions, apart from commercial bee-keepers, as evidenced by an ever-increasing subscription list.

The BEE WORLD, which is backed by an

international spirit, which seems no less, if not even greater, than the enthusiasm shown by the late Swiss internaticnalist, Edouard Bertrand, of Nyon, has by sheer merit made its way in no more than a year to the front rank of bee literature. Its few critics, from our own experience, are chiefly the adventurers who keep meeting with disappointments in attempting to divide the craft on itself for the gratification of their petty jealousies and recriminations.

Although the reorganisation stage following the decision of the *Apis Club* general meeting last May necessitated a prolonged handicap to our contemporary, we have no doubt from what we know of the resourcefulness of the publishers, whose ranks are steadily on the increase, that all arrears will be duly cleared in a creditable manner.

A Dorset Yarn.

Bees have found a long line of Limanthes Douglasii; these are 300 yards from the hives, showing that some of them are flying strong and well away from the apiary. The line is a yard wide and 200 yards long, just as they seeded themselves from a row planted last summer from seed sent me a few years ago by Mr. Harwood. They seed themselves very liberally; when once you have them they are, like the poor, "always with you." Some will escape the hoe, and will flower freely for the bees. Plenty of flowers in February is a great boon to bee-keepers; those who have only a limited space for flowers might try these very free-blooming, easily-cultivated flowers. The lot we have in bloom now was from one long line dibbled in at one foot apart in autumn, 1919. They seeded last summer, and have now covered the soil to one yard wide. Though space is valuable, one cannot destroy this great quantity of food for bees.

The yellow gorse bushes have bees continuously on them as long as the sun shines, which has been a good time most days this last week. They come back to the hives covered in pollen, as they do when working the vegetable marrow. This to me is somewhat singular. As they have to open each flower, one would expect the pollen to be rubbed off as they leave the flower. Still, they may get this abundance of pollen from the crocus, in which they seem to make merry with the pollen. This flower closes its petals at night over the pollen to keep it dry, and will open them again with the sun, exposing the pollen to the bees. Bees seem to act in a crazy manner when on the crocus; it must be that they cannot get a firm foothold on the anthers; they get a good deal from these this fine weather.

When yarning on bees at Parkstone last week, a bee-keeper said that he put his bees near the gaps in his orchard, to stop boys from taking his apples. He was not successful—even then the apples disappeared. He also said that when he took strangers to see his bees they were always bad tempered, but they did not sting his visitors, but took to stinging him. He asked me the reason, but that is one of the things that is beyond my comprehension. I know with our own bees at somo times they are a bit spiteful, yet an hour or two after one can do anything with them.

Without doubt the orchard is the best place for bees (unless you have animals running loose), as they are so close to the flowers when they open. Flowers of Jargonelle pears are now dividing out each pannicle of blossom buds that was tightly wrapped up in a brown casing during January. The first dandelion was open this last week. With us the bees are never so eager to look over this flower as it is written of in the American book of bees, "A B C and X Y Z." Our bees seem rather to like the violets more than this large, yellow, composite flower. This mild week they have robbed out some of the stocks; they have also robbed out a stock which was given to a schoolboy enthusiast, who was told, when it was given him, it would be increased each year, and was the foundation of a fortune. He was continually boasting of how many he would have; each day he told me how busy they had been. Then they ceased all at once—our bees had cleared him out. He is promised another lot; one does not like to see the ardour of boys dwarfed as was his.

We have had some distinguished visitors this last week, mostly to see the farm, but some to see the bees. Among the latter was Sir James Kenedey, of the Burns county of Scotland, as he wrote it "Bonnie Doon," an enthusiastic bee-keeper as well as the well-known breeder of Angus cattle (his pedigree herd is known the world over). I hope some time to be able to see them. Our cows increase, but all we keep are the deepest milkers. (My sons have added another dairy farm to this, which takes us down to the River Stour, which is a mile away.) I suppose it was quotations from the ploughboy poet of Scotland that brought this distinguished visitor, so though I often quote them wrong, or not word perfect, the imperfections of the Dorset farmer does not altogether spoil his yarns.

Another writes to me offering to provide all appliances and find the bees for a working partner in the south. With some of the bee enthusiasts who have

taken the small holdings we shall be able to make Dorset hum with bees this year, as we have some from the Navy and Army planted on the land. Some of these men may be glad of a help with appliances and bees this season. He who helps to build up an industry is to be commended.—J. J. KETTLE.

Jottings from Huntingdonshire

The rain is falling at last, and very refreshed the whole countryside is looking; the song birds are delighted, and they tell us so in notes varying from treble a to e. The bees have stayed at home, wise little things. Yesterday the warmth was so great that bees from one of my stocks came out in such numbers that the village people who heard so much humming thought I had got my first swarm. The little insects have had a very busy week, the box bloom being first favourite; but some went off to the woods and came back with all manner of pabulum, catkin pollen, celandine pollen, and pollen a reddish pink—from some of the elms, I fancy—some of a purplish brown which I couldn't name, and am quite anxious to discover the origin of this dust. On the borders of March one must seriously begin to encourage breeding in real earnest. A hundred young bees in March are worth a thousand in May or June. The fruit blossom will be out early, at least the signs point that way, and I cannot recall an early Easter and late spring and to have lots of bees for the fruit blossom is to begin the season well. You may get young bees and swarms in May, but you won't get fruit blossom honey stored in supers unless your bees are young and strong in March.

From accounts one receives many beekeepers have lost their little all these past two months, not always from disease, not always from starvation, but from exhaustion. Day after day have the bees been out wearing themselves down and dwindling away in hundreds. I have a lot that suggests this. Not overstrong in numbers when packed down for the winter, they dwindled, but from a cursory glance within one sees sufficient to carry on and build up in time for some of the blossoms of spring. On the other hand, a stock, the queen of which began laying some weeks back, is almost overflowing in numbers.

Why are cats so fond of hives? One or two neighbouring cats take their siesta beneath the hives if the weather be dull, and on the hive top if the sun is shining. If mice can smell cats as easily as cats smell mice, a cat-haunted apiary should be a good thing. Occasionally one sees a rabbit "sitting out" beneath a hive, many of which creatures care naught for puss. I have often seen cats being chased by rabbits; it seems a question of which shows fear first.

Has any reader been to Iceland? One would like to hear more of the bees of that Northern country, and none can speak so authoritatively as those who have been on the spot. Scandinavian bees, too, what of them? The Danes do most things intensively; cannot we have a few notes from their bee-keepers? One picks up a book and reads: "There are over three hundred different species of bee," and then reflects that one's knowledge is limited to about twenty species, and faints—metaphorically, of course.

By the way, bees faint, and have side aches — their equivalent for our headaches. The smell of fusty quilts, the stench from mice, decomposed animal matter will cause them aches and pains and fainting feelings. On the other hand, they have no objection to decomposed vegetable matter. Manure heaps are not offensive to them—they will visit them for moisture. But what is it that attracts them in upturned soil? Is it just inquisitiveness or do they find something of value to them? I have heard that bees visit newly-turned soil and select seeds which they they carry off and drop on other ground, and so distribute flowers, which accounts for asters in a wheat field and candytuft growing amongst barley, and so forth. It sounds compatible with their wisdom, but——.—E. F. HEMMING, Steeple Gidding, 25/2/21.

Advertisement Rates.

We regret that owing to increased cost in various directions it will be necessary to make a further slight addition to our advertisement rates beginning with the next quarter, April 7, and the RECORD for April. Taking into account our increased circulation, our revised rates are still decidedly moderate.

DISPLAYED ADVERTISEMENT RATES
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	£	s.	d.
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Quarter page	1	15	0
1½ in. across page	1	10	0
1 in. across page	1	0	0
½ in. across page	0	12	0
1½ in. single column	0	17	0
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Discount for a series of consecutive displayed advertisements:—Six insertions, 2½ per cent.; Twelve insertions, 5 per cent; Twenty-six, 15 per cent., Fifty-two, 30 per cent.

For *regular* yearly advertisers in both the *Journal* and the *Bee World* an additional 2½ per cent. discount is allowed by each management

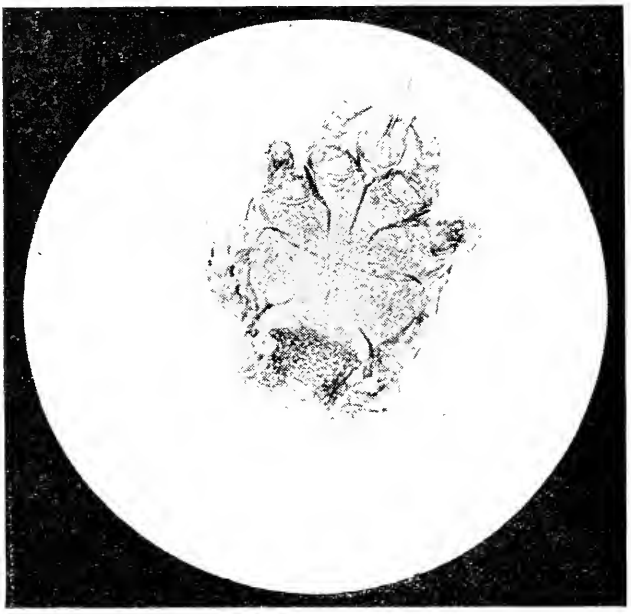
The Acari and Bee Diseases.

In 1912 the Board of Agriculture issued their well-known report on the "Isle of Wight" Disease (*Microsporidiosis*), followed in 1913 by a "further report." As everyone interested in the honey bee from a scientific point of view knows, the reports are accounts of the wonderful research work of eminent bacteriologists. The second report (1913) confirmed the results of the former report (1912).

But the work of investigation was not confined to the years 1913 and 1914. In 1906 Drs. Fantham and Porter observed a Protozoön, *Nosema apis*, in the digestive tract of bees, and they showed that the parasite was pathogenic for bees.

For years *Nosema apis* was regarded for years on this subject of bee diseases, and I gather that so far she has not been able to determine the cause of what we still have to call "Isle of Wight" disease.

Not long ago the bee world was startled by an announcement by Dr Rennie, of Aberdeen, that in his opinion, after considerable research, the "I.O.W." disease was due to the presence of an Acarus (or mite) which he found in the tracheæ of diseased bees, and which he named *Tarsonemus woodi*. Unfortunately, and I say this advisedly, he has not given much information to the scientific world about the life-history of this parasite. We should like to know more about his investigations. There are many



Copyright.] FIG. 1.—TARSONEMUS WOODI × 375. [*Rev. G. H. Hewison.*

as the *sole* cause of "Isle of Wight" disease, and the cause of the loss of thousands of stocks of bees in the British Isles every year.

But for some time now observers have been questioning the statement that *Nosema apis* is the sole cause of "Isle of Wight" disease; and for what appears a very good reason. Stocks have died out, and whole apiaries have died out, apparently from "I.O.W." disease, *without a single bee showing the slightest sign of Nosema apis*. So it was felt that we must look further afield for the cause of this mortality.

Dr. Helen L. M. Pixell-Goodrich, of Oxford, one of the most eminent bacteriologists in this country, has worked

things about which we are absolutely in the dark. Certainly, bees of stocks which have died out rapidly do show this Acarus in the tracheæ. But is this the *sole* cause of death? In a vast number of stocks which have died out rapidly there can be found neither *Tarsonemus woodi* nor *Nosema apis, nor any other species of Acarus*. So I feel convinced that we have by no means fathomed the mystery.

Mr. J. Herrod-Hempsall, F.E.S., kindly sent me some bees in which he had located some Acari. I am able to reproduce two photomicrographs of these Acari. Fig. 1 shows an isolated Acarus magnified 375 diameters, and Fig. 2 shows two Acari *in situ* in the trachea magnified 182 diameters.

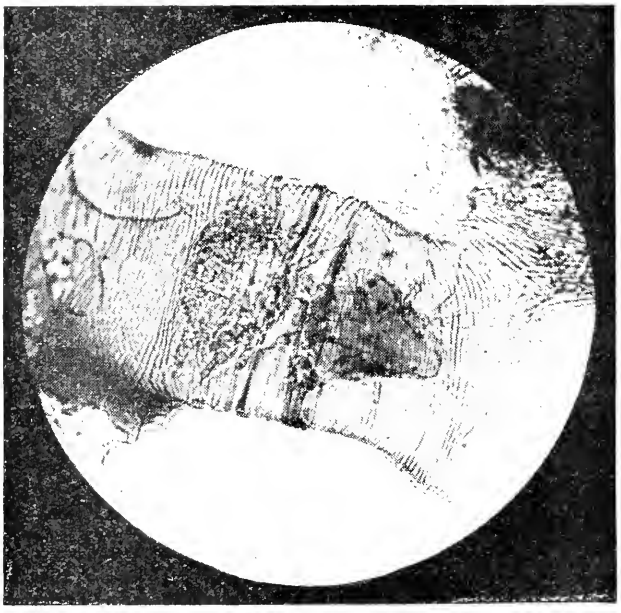
But are these the only species of Acari which infest the tracheæ of the honey bee? In 1909 Mr. Ellison Hawks discovered an Acarus in the trachea of a honey bee, and a photomicrograph of this mite is given in his book "Bees Shown to the Children," plate xxxiv. Mr. Ellison Hawks, unfortunately, did not register the magnification of the photograph, but he has kindly promised to send me the specimen, and I hope to be able to measure it, and give the magnification later. A reference to the photograph will at once show that the Acarus is not of the same species as the ones in the photographs taken by myself.

Unfortunately, I have not time to take another photomicrograph before the issue of this article, otherwise I should have been in the position to show still another species of Acarus which I isolated in the trachea of a honey bee which was affected with "Isle of Wight" disease! So it appears to me that very minute Acari are common parasites of the honey bee, but whether they are the cause of death remains to be proved. As Mr. Ellison Hawks said to me, if the mites are the cause of the disease, how is it the infection spreads so quickly from hive to hive?

It will, perhaps, be observed that the Acari in the illustrations are not unlike in appearance to the *Acari favorum* found in old honeycomb, though the latter are, of course, very much larger creatures.

One would be interested to know which species of Acari are referred to by Dr. Dallinger in his "The Microscope and Its Revelations" (1901), on page 1013, where he says: "The Tarsonemidæ are minute creatures, some leaf-miners, some parasitic on bees," etc.; also one would like to know more of the *Acarus Trichodactylus* referred to in Griffith and Henfrey's Microscopic Dictionary (1883), page 4, and stated to be "parasitic on bees"; also of the *Acarus Hypopus* on page 409 of the same work, where it is stated to be a parasite of the humble bee.

It seems to me that we have a long road to travel before we arrive at the definite cause of "Isle of Wight" disease, and a few more by-paths to traverse before we find a cure. But some day this will come about if every worker will give his observations freely and openly to the world in the cause of science.—G. H. Hewison, M.A.



Copyright.] Fig. 2.—Tarsonemus Woodi in Trachea × 182. [*Rev. G. H. Hewison.*

Lantern slides of these two illustrations may be obtained from Rev. G. H. Hewison, Marr Vicarage, Doncaster.

Weather Report.

Westbourne, January, 1921.

Rainfall, 3·61 in.	Frosty nights, 3.
Heaviest fall, ·44 in. on 7th.	Mean maximum, 49·5.
Rain fell on 22 days.	Mean minimum, 40·9.
Above average, ·91in.	Mean temperature, 45·2
Maximum temperature, 55 on 21st.	Above average, 7·0
Minimum temperature, 29 on 16th.	Maximum barometer, 30·550 on 16th.
Minimum on grass 24 on 15th and 16th.	Minimum barometer 29·194 on 31st.

L. B. Birkett.

Cotswold Notes.

ON REARING DRONES.

The rearing of drones is an essential duty with the queen-breeder, but I am not sure that sufficient attention is always devoted by bee-keepers to this matter.

The far-reaching effect of rearing good drones plentifully right through the summer cannot be over-estimated. As is well known, the drone exerts considerable influence over his progeny in temper and working qualities and colour.

In this direction the straw skep teaches a useful lesson. The two outside combs are practically always composed of drone cells, as also the upper part of the central combs to permit drones to be raised in large numbers during the swarming season, and afterwards to accommodate winter stores.

The natural tendency for a queen in her prime is to deposit drone eggs in plenty, and if comb is available there is therefore no lack of drones to fertilise young queens.

Probably it is unnatural for fertile queens to be restricted as much as they are at present. Although expensive in honey to rear and maintain, ample drones are as necessary as hot, still days to ensure quick mating.

And it is more than probable that the unusual failure of queens to mate reported last year was due partly to lack of drones, more especially on the termination of the natural swarming season.

Drones will fly in rather a lower temperature than virgin queens.

During sunny intervals in somewhat stormy or windy weather, the presence of drones flying in large numbers in and around the apiary will always ensure a good percentage of quick matings.

The weather must indeed be very bad for eggs not to be noticed before the twenty-first to twenty-fifth day after hatching.

The tendency in many apiaries at present is to restrict the area of drone comb to a minimum. Very little drone comb is allowed in the brood chamber, and the queen can only use those cells she finds along the edges bordering worker brood.

To offset this restriction properly it would be necessary to use several stocks entirely for the production of drones, which is not often done except in larger apiaries.

The influence exerted by the drone raised under proper conditions is wide in its action, and if a special queen of any distinct variety be introduced into an apiary and kept for drone-raising every young queen mated by a selected drone will, of course, transmit two factors —one entirely distinct. Coming from unrelated stock, the danger which arises from in-and-in-breeding is therefore obviated. Imported queens are frequently of more value for drone-raising than for queen-rearing.

A mis-mated queen, if her progeny has proved to be long-lived and good honey gatherers, would be equally valuable for drone-raising, because if bred from a pure mother the drones would also be pure.

The colouring of drones, although it is not so stable as that of the workers, is nevertheless an accurate guide as to the purity of a queen from which one wishes to breed.

To sum up, for an apiary run mainly for honey, an allowance of one full drone comb per colony is not excessive, for the few stocks which excel in any particular way. If the combs are built from starters in well-wired frames they are not liable to drop out when lifted for inspection.

When drone-rearing is restricted to one or two colonies, they should be given full depth supers containing five worker and five drone combs. In this case it is not advisable to use an excluder between any such chambers, because many drones will be trapped.

Queens will rarely attempt to deposit drone eggs in sections if this is arranged for in the regular brood chamber, and cramping obviated.—A. H. BOWEN, Cotswold Apiaries, Cheltenham.

Echoes from the Hives.

QUEEN TAKING AN AIRING.

The mild weather has to-day induced my bees to leave the combs and come out into the open.

Noticing one hive unusually busy about 3 p.m., I took up a position near to it, merely out of curiosity.

However, I soon found out the cause on observing the queen go down the alighting board and back, up the hive front a few inches, when she took to the wing, flew round three times and returned to the hive. She only got up a few feet above the hive, so that I was able to observe the flight from beginning to end.—CLEMENT SMITH, Collingham, Newark.

February 13, 1921.

Bees flying merrily. The over-driven stock of last summer has succumbed. Two Italian and one Black stock quite strong. One pound of candy on each one.—G. GRYLLS (Rev.), Sheldon, Honiton.

The Apis Club.

The annual conference of members of the Apis Club will be held at the Central Hall, Westminster, S.W.1, at 2.30 p.m., on Saturday, April 2, 1921, for the purpose of :—

(a) Receiving the report of the organising secretary for the past year.

(b) Deciding on the future character and development of the club.

(c) Appointing two representatives on the Bee Advisory Committee of the Ministry of Agriculture and granting a general mandate to them in relation to bee diseases legislation.

(d) Executing any other business assigned to the annual conference by the provisional constitution.

The Conference Hall will be open at 2 p.m. Nearest station (three minutes walk): Westminster, District Railway—A. Z. Abushady (organising secretary).

Monmouthshire Bee-Keepers' Association.

ANNUAL MEETING.

The annual meeting was held in the Wrenford Memorial Hall, Newport, on Saturday, February 12. Rev. H. G. Stanley presided, and was supported on the platform by Messrs. W. E. Baker, Ll. Morgan, A. T. Young (hon. treasurer) and Mrs. Ll. Morgan (hon. secretary).

The minutes of the last annual meeting were read and confirmed. The secretary's report and the treasurer's statement were read and adopted.

L. Forestier-Walker, Esq., M.P., was unanimously re-elected as president, and Rev. H. G. Stanley as chairman. A letter was read from Alderman White resigning the position of vice-chairman. The meeting, however, unanimously desired that he should retain this post, and elected Dr. G. R. Strong as an additional vice-chairman. The vice-presidents were re-elected, as were also the members of the committee, with the addition of Mrs. Tom Jones, Newport, and the substitution of Mrs. for Mr. Llewelyn Morgan. Mr. A. T. Young was unanimously re-elected hon. treasurer, and thanked for his past services., Mrs. Ll. Morgan, although pressed to continue in the position of hon. secretary, regretfully declined, and proposed the election of Rev. R. Todd, Sudbrook, which was carried unanimously. Mrs. Morgan was then most cordially thanked for her arduous and efficient work during the past year.

The local secretaries were all re-appointed. Mrs. Ll. Morgan and Mr. W. E. Baker were appointed representatives to the British Bee-keepers' Association in London.

The chairman then called upon Miss Bunning to present certificates :—Second-class expert to Rev. R. Todd and third-class expert to Mrs. Lusty and Mr. M. T. Todd

Certain members gave their views upon the Bee-keepers' Convention held at Gloucester last summer. This gathering consisted of bee-keepers from the counties of Gloucester, Hereford, Monmouth, Somerset and Worcester. It was then unanimously decided to support the Convention to be held at Hereford this year.

The question of supporting the honey section at the Grocers' Exhibition in London next September was left to the consideration of the committee.

An adjournment was made for tea, during which Mr. F. Tyler-Taylor gave some much appreciated violin solos. This was followed by a most interesting lecture by Rev. H. G. Stanley. Thereafter a resolution was passed urged the importance of bee legislation in the form of the present Bill. This was followed by an informal discussion and a hearty vote of thanks to the chairman. At Dr. Strong's suggestion it was agreed that in addition to the annual meeting another general meeting should be held during the summer.

(Communicated.)

Onions and Isle of Wight Disease.

[10,401] Having found almost instant relief from what we believe to have been "Isle of Wight" disease, we think it our duty to record our experience to you, as perhaps you will be able to let others know through the medium of your Journal.

On Saturday, October 23, we noticed several of our stocks of bees dying in an alarming manner, the alighting boards and the ground around the hives being covered with dead and dying bees. Reading in the Journal of the success of others who had tried onions stewed, and the liquor added to sugar syrup, we thought we would give it a trial. This we did, with the result that within four days all symptoms of disease had entirely vanished, and up to the present we have had no recurrence of the trouble. We should like to mention that we appreciate the unselfishness of those who so quickly after their experiment gave us this wonderful medicine recipe, and that we thank them very heartily.—John W. Harper and H. Cantle, Bedminster.

A Correction.

[10,402] With reference to your leading article, namely, "Legislation for Bee Diseases," in your issue dated the 24th Feb., may I be permitted to correct a statement which occurred therein to the following effect:—

In the article referred to, mention is made of the name of Mr. Barratt as being the Secretary of the "Sheffield Bee-keepers' *Association.*" In the same issue of your JOURNAL, the annual report of our Association is printed, and, consequently, the two statements must appear conflicting to readers who are not aware that two local Societies exist, viz., the Sheffield & District Bee-keepers' Association, and the Sheffield Bee-keepers' Society.

Mr. Barratt represents the Sheffield Bee-keepers' *Society*, with Mr. Snelgrove as its Hon. Secretary.

Further, I would state that the Sheffield & District Bee-keepers' Association is unanimous for legislation, and is affiliated to the British Bee-keepers' Association.

In conclusion, may I add that no spirit of ill-feeling attaches to my remarks, but I think it advisable—in fairness to our members and supporters of legislation generally—to make this correction.—W. GARWELL, Hon. Secretary, the Sheffield & District Bee-keepers' Association.

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

"M." (Inverness).—*Using antiseptics.*—(1) Our note of November 11, 1920, referred more particularly to medicating food. You might try "Bacterol" for a change. We have not heard of the one mentioned, so cannot say if it would be suitable or not.

(2) *Wood preservatives or paint.*—We prefer paint. The base of most, if not all, of the preservatives is creosote. (3) The frames may be used again. If they have not been in contact with any disease scrape off all bits of wax and propolis. If they are suspect, boil them for twenty minutes or more.

"M. T." (Buckhurst Hill).—*Location for bee-keeping.*—We do not know either the Broad district in Norfolk or the Falmouth district. Can any of our readers give any information of these two districts from a bee-keeping point of view?

Suspected Disease.

"J. A. S." (Cowes).—(1) The bees were suffering from Acarine disease. (2) Yes, use a strong solution of Izal

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HOW EARLY MAY STIMULATIVE PROCESSES BE SAFELY COMMENCED.

(continued.)

It is not wise, even with a strong stock, to uncap more than one or two combs of sealed stores at a time, or the apiarist may cause disaster, as did an expert (?) when on his visits to members' apiaries. Finding a stock somewhat overcrowded with food, thinking to make the bees store it in the supers he uncapped the whole lot, with the result the poor bees were just drowned in their own sweets.

Only recently the writer saw some "sage" advice given in an article published in a local newspaper. An otherwise practical bee-keeper stated that he always uncapped some of his bees' food at the end of December, because the stores become "hard" and difficult for the workers to appropriate.

But I have never known properly stored food become too hard for the bees to appropriate where there have been enough of them. Surely the advocate of such mid-

"The nucleus you sent me five weeks ago is going strong, and is now a strong stock, although they have had little attention through my illness, and the weather has been inclement." J. L. N.
August 1, 1920.

winter disturbance had kept bees only during mild winters, and no great harm may have followed this strange manipulation of stores.

In any case, the bees have to re-store the disturbed food, and if mild will fly frequently for water during the process; while they will then be sitting upon combs of unsealed food, much to their disadvantage should a spell of severe frost follow. Where bees have to winter on heather honey there may be some difficulty in using this glutinous food if water cannot be brought in, but they have no difficulty in removing the cappings.

It is much better to advise the novice to disturb his stocks too little rather than too much, though it is a mistake to become careless, and leave the bees rigidly alone for six months during the winter period.

During a fine, mild spell in February I never omit to overhaul all stocks in the apiary, re-arranging the food, and sometimes robbing the best stored to help those

"I am delighted with your book. The bee-keeper who makes it his guide may be sure of success. This is the opinion of one who has kept bees since 1878" W. R. L.
Edinburgh.

having less food; but not until the month with its magic name for bee-keepers do I attempt much in the way of "marching" on the road to active stimulation.

Unless there is pollen stored in the combs, or much being gathered, any sort of feeding or uncapping will not develop a brood nest; but with good supplies of that necessary article, stimulative methods are well repaid.

If carried out at the right time with due regard to the weather, it is certain

"Your W.S. queen beats anything I have seen in all my twenty-five years' experience. Nothing can equal your plan of queen-rearing, in my estimation."
APIARIST,
American Agricultural Farming Co.
St. Louis, Mo., U.S.A.

that a first general disturbance, with uncapping of sealed stores or a supply of fresh food, will start the bees and queen on the road to active brood production; but when once commenced there should be no hesitation, and no cessation of supplies if one expects good and permanent results.

(To be continued.)

Stocks at Nucleus Rate; Nuclei greatly reduced for 1921. S. SIMMINS, Queenland, Heathfield, Sussex.

Legislation for Bee Diseases.

We have had so much discussion on this subject that there appears to be a certain amount of confusion as to our position in relation to legislation, therefore it may be well to try and make it clear. We have said in former issues that those who *do not want legislation at all* are opposing it under the pretence that they are only opposing the Bill in its present form.

It is now over 25 years since agitation for legislation started; at that time, of course, the only infectious or contagious disease was *Foul Brood*, and the earlier Bills were formed to combat *that disease only;* the probability of any other epidemic disease among bees was never taken into account or treated seriously. Now the position seems to be reversed, and many appear to be under the impression that legislation is needed only, or mainly, for "I.O.W." disease.

Had legislation come before 1906 we would probably have been in a similar predicament to that of the Irish beekeepers, who, instead of having a Bee *Diseases* Act, have one that applies only to *Foul Brood*, and under its provisions the authorities are as *powerless to deal with "Isle of Wight" disease as we are in England*—that is one of the disadvantages of making too strict definitions in a Bill, or limiting its provisions. A very good example of the anomaly that may be created by an Act being too narrow is found in the Deceased Wife's Sister Bill, which is so framed that if two brothers married two sisters and later one brother and the wife of the other one died, it would be legal for the other brother to marry his deceased wife's sister, but it would not be legal for the sister to marry him, as *a woman may not legally marry her deceased husband's brother.* We wish to avoid mistakes of that character.

To get back to the point, we are not tied hard and fast to all the provisions of any particular Bill. What we are out for is *protection for the careful beekeepers from the often culpable, criminal carelessness and indifference of the slovenly owner of disease-infected hives and bees.* The *B.B.J.* and *Record*, as well as the B.B.K.A., have consistently supported every attempt to obtain that protection, though they may not have been satisfied with *all* the provisions in the different Bills.

It will, as we have said before, be quite impossible to draft a Bill to suit everyone. The difficulty with those *genuinely* in favour of legislation but not satisfied with the present Bill is that each one wants a Bill drafted just to their own individual ideas. For our part we are not disposed to indulge in hair-splitting over the provisions of the Bill, but it will be a mistake to have them on too narrow lines. Those who are opposing legislation, under cover of total opposition to the present Bill, have done exactly the same thing in the case of every Bill that has been brought forward. In some cases the opponents of the earliest Bills and of the present one are the same, and the formula is also the same now as years ago. They are "totally opposed to the Bill in its present form"—we quote a letter of 1905—and though they profess to be in favour of legislation, they do nothing but oppose every Bill "in its present form" as a matter of course, no matter what that form is.

Pamphlet on Bee-Keeping.

The East Sussex County Council are amongst those who recognise the value of bee-keeping. They have just issued a Pamphlet entitled "Bee-Keeping for Beginners," written in simple language by their well-known and popular expert Mr. F. Kenward. It can be obtained from the Agricultural Offices, East Sussex C.C., Lewes.

A Dorset Yarn.

There is no doubt that bees start their new population early, for the covering over the top when lifted shows the small peep strip of glass has plenty of warmth. Even those that had a rack of partly-filled sections on top of brood chamber have plenty of bees up on top and plenty of warmth even through the rack. The writer in the Journal who advocated leaving racks on with plenty of natural stores for winter food gave sound teaching, as proved with our bees this season, even though a lot of it is heather honey, which it is impossible to extract (we left shallows with a lot of this on in the autumn). To see the bees up on the last day of February with the necessary warmth and on top of shallow combs and section racks the first thing in the morning of March 1, shows that the greater part of our lot has come through so far well. We had one lot which streamed out when the sun shone warm, and many of them never went back. There is still a cluster to be seen beneath the strip of glass over the brood chamber, but very small, and I cannot expect these to come through—there are not enough of them. It shows

that all disease has not yet left me, and these self-denying workers all left the hive and crawled away to die, not to keep any taint of their little carcases in the cluster.

For the commencement of March this looks like the rosiest spring for our bees. I am always an optimist, but some of the readers may tell me I am not through yet. One can only write of what one sees and make the deduction from that. To see them so far away from the hives in early March must make any bee-keeper optimistic.

Bees are working the violets and the pussy willow. The willow male flowers have now their golden stamens showing; the female flowers have not yet got their adhesiveness that keeps the insects that would creep up the stems for the honey, but which would not be of use for pollination, as are bees which fly from flower to flower carrying pollen from the male trees to the female trees. Muller says, in his book, "The Mechanisms of Flowers," that eighty-six varieties of insects visit these willows—*Apis mellifica*—abundantly. Bees are so easily seen on this one, as its flowers open before the leaves. One sees equal numbers of bees on males and females, even though they may be not close to each other, where they have been planted by cuttings. Have seen nearly all male plants in one line; they look very pretty when the two pollen-laden anthers stand out of the inflorescence. There being so many flowers in each inflorescence, each flower with its two anthers of yellow pollen makes them very beautiful. Willows with their polleniferous and pistiliferous flowers have always been an interesting object lesson in pollination, as they could not fertilise each other owing to their flowers being so far apart but those trees like oaks, pines, and alders, where the two, male and female, flowers are separate but both are on one plant, wind can blow the pollen on to the stigmas, and so perfect pollination; but with willows it must be carried by insect agency, and that is mostly by bees. That they get quantities of stores from these plants is proved by the bees starting repairing the lips of the cells over the brood nest, which our lot are doing now. There is just a thin line of new wax, white and clear, against the old soiled parts of the combs. Years back, when I read Kernor, I was struck by his entrancing writing of this class of flowers. The simple yarner of Dorset considers these among the wonders of the vegetable kingdom, that bees should, when searching for food, see to the perfect pollination of these flowers. Bees seem to get stores from the whole family. —J. J. Kettle.

Jottings from Huntingdonshire

I have been caught napping. One of my W.B.C. hives seemed to be a choice domicile for a pair of mice. After making the entrance so that no mouse could enter, and knowing the nature of the wood, I felt satisfied no mouse would trouble me, so far as that hive was concerned. To-day I tackled this hive with the intention of doing a little comb scratching or feeding, as the case may be. These bees were wintered on 30 lb. of stores, so I had no cause to be anxious hitherto as to feeding. Judge of my surprise on lifting the roof to find the paper quilts shredded to fragments, and the cloth quilts carded up to make comfortable downy nests. The little beasties had succeeded in moving a cone in the roof eke, and with this excellent doorway found no difficulty in establishing themselves nice and snugly over the brood nest. Fortunately, a Rymer board was on top of the frames, which prevented the mice from getting at the wax and honey. The bees were not as greatly distressed as I expected them to be, and I was heartened to see the number of youngsters among them. Five combs only were emptied of honey, three others had about 2 lb. each, and two filled from top to bottom had not been touched. I lifted one comb, and found brood in various stages and rejoiced. What bee-lover can resist a smile on seeing ample store and brood with plenty of young bees in early March? After cleaning the floorboard, on which there was not a single dead bee, and uncapping a little sealed comb, I covered them down with fresh, clean quilts, and left them humming their gratitude in their own inimical way.

Catalogues from bee-appliance makers continue to arrive, and so far I have looked in vain for a hive capable of taking eighteen or twenty frames on the floor level. Why? One maker, it is true, has a helpful clause, "Hives made to customers' own specifications; satisfaction guaranteed." Is there no demand for such hives, for instance, as those so earnestly advocated by Nutt with modern improvements? That there are several about the country my correspondence proves. Who makes them? One or two I have seen are evidently the work of experts. When I ask the owners from whence they got them, the reply is, Bought at a sale or bought from a person who has given up bee-keeping. I wonder whether they know anything about these collateral hives at Benson! I asked an expert his opinion of them at the last B.B. Keepers' annual meeting, and he thought I referred to Claustral hives, which are quite another thing.

I am glad to notice two more readers have proved the value of onions in the treatment of bee diseases. I should like to add that the juice of the onion is still more beneficial unboiled. The best way of preparing is to cover a basin with a few slices of onion; on this place a good covering of pure cane sugar, another layer of onion, more sugar, and so forth; cover over and allow to stand for at least twelve hours, and a potent juice will be found ready for use. A pound of onions and one pound of sugar will make a useful quantity. Two tablespoonfuls of this juice to a pint of syrup are the correct quantities. The advantage of extracting the juice from unboiled onions is that the vitamines are preserved. Furthermore, it is still wiser to use the onion just as it comes from the ground—with dirt washed off, of course—no peeling should be done, and thus preserve the full vitaminous value of the bulb.

It is a most excellent thing to have onions flowering in the garden. The bees will visit them as often as they need. I do not think anything in the onion attacks *Tarsonemus woodi*, in particular. Onions tone up the system of the bee and enable the insect to throw off disease. In this respect one must not forget the drones. If disease is knocking around drones will soon show symptoms. How, then, is one to get the vitamines of the onion into the system of the drone? For my part I do not hesitate when drones are flying drowsily before the hives to spray them with Yadil. It does no harm, and, I hope, does good.

My promised article on drones is not yet ready. I shall have to hurry up or others will be saying what I want to say. Mr. A. H. Bowen in last week's JOURNAL has already robbed me of some of my thunder. I agree with most of what he has to say. He is kinder to his own sex in the bee order of life than many of us. We gain wisdom as we grow older, and no wisdom is so well gained as that which recognises the value of drone breeding and drone control.—E. F. HEMMING, Steeple Gidding, March 5, 1921.

Safe Wintering.

By D. M. MACDONALD.

The W.B.C. hive affords a space between the outer and inner cases, and some bee-keepers believe in packing this inner space with some warm material. Personally, I do no packing here, but content myself with supplying a sufficiency of warm material above the brood frames, believing, as I do, that it is there that bees suffer most and need most protection. Those who think otherwise may do good, and certainly cannot do evil, by giving some form of protection instead of leaving mere dead air in the open space surrounding the brood nest. In cold climates some such devices as that frequently advocated in America should be tried.

Several alternatives may be given.

(1) *Paper Cases.*—Light building paper serves the purpose quite efficiently. Fold the paper very neatly all round the hive, being careful to leave the entrance perfectly clear, and cord neatly to hinder rough winds from disarranging the packing. Some prefer to use felt instead of paper, and the light grey kind has not the objection which tar-paper is said to possess, and having a tendency to absorb heat overmuch. We like our hives white or slate coloured, because we recognise that if shaded dark or black extremes of heat and cold will prejudicially affect the wellbeing of the bees. In this country an outer covering a little larger than the true hive, generally consisting of grocers' empties, is often used.

(2) *Packing in Groups.* — I would have more belief in that method of packing where hives are assembled in pairs or quartettes, and all packed as one unit, with, of course, entrances left perfectly clear and all facing in the latter case different directions. These cases are sufficient in this country, but in America forest leaves are generally used to fill up the space between the inner and outer walls. Some with us still pin their faith in the good old chaff hives, which at one time were very generally believed in, and by some are still believed in as an important means of securing really safe wintering. They have their drawbacks.

(3) *A Snow Claustral.* — In our Northern latitudes, when snow drifts around a collection of hives, it often piles up as high as the level of the roof, sometimes, indeed, burying them. This acts as a warm blanket over them, preserving the temperature of the interior. It is a mistake to shovel this away. It will be found that all round the hive an open space exists, and consequently there is a full supply of fresh air. Bees are not in the least discommoded by this outer case, which wraps them all round. It is, in fact, much as if Nature acted in favour of our colonies and provided for us and them a special form of winter packing, more perfect, indeed, than those we have been considering above. It is a species of claustral hive. When a rapid thaw sets in it ceases to be a boon.

While regular cleansing flights at intervals during winter prove undoubtedly a boon to bees, a long continuance of too high a temperature, allowing a large amount of flying, is not an unmixed blessing. Such labour may prove a consider-

able drain on stores, which then run down rapidly. An inordinate breaking up of the winter cluster tends to a spirit of restlessness inimical to the best measure of success in wintering bees. The weather is often so changeable that, following a protracted flight, the temperature is rapidly lowered, and the bees, tired out, repose on a cold surface, get chilled, and frequently succumb. The moral taught by all this is that a rather cold winter preserves bees better than a mild one. Repose is their best preservative. They age as a consequence of toil. After a fairly wintry winter colonies should show more young bees in spring than after an open one.

No better supply of winter food can be given bees than the natural stores gathered by themselves. White clover yields the best; several tree flowers are inclined to give a thinner form of nectar, and in spring may tend to more or less dysenteric symptoms. Some affirm that heather honey is not a wholly reliable winter food, but, in a long experience, I have never seen any signs of the truth of this contention. I would look for some admixture from some other source if evil arises.

It is advisable to arrange the apiary so that a hedge or shrubbery may break the force of cold winter winds and form a protection to the hives. Privet, beech, or spruce serve the purpose well. Evergreens are best because it is in winter the bees require shelter most. In the absence of any such protection a substantial windbreak could be erected. The practice of our Northern railways may give us a hint. Where, in exposed places, heavy snow-drifts would block the permanent way, the authorities erect strong wooden barricades to check the drifting. Our bees would greatly benefit by such windbreaks, temporary or permanent. Shelter from the north, or other direction from which the cold winds blow, should be one of the main claims in arranging the site of an apiary.

Wild White Clover.

The Ministry of Agriculture and Fisheries have issued a leaflet (No. 355) on growing wild white clover and late-flowering red clover for seed. Those of our readers who are engaged in agriculture, or have facilities for growing wild white clover for seed, should send for the leaflet. There is, it is stated, a good demand for the seed, and if it will pay anyone to grow it, there is no doubt it will a beekeeper, with the advantages of having bees to fertilise the flowers, the benefit of the full flowering period for the bees to collect nectar, added to the honey harvest, and the sale of the seed. The leaflet may be obtained gratis and post free on application to the General Secretary, Ministry of Agriculture (Publications Branch), 3, St. James' Square, London, S.W.1.

Notes from Gretna Green.

Safe Wintering.—My apiary has once again come through without a single casualty, and as all twelve stocks have still ample stores no candy is required.

With two exceptions they have stored supers left on, and every colony shows signs of brood-rearing, while the only one examined—a mere nucleus—had brood on two combs.

Disease Treatment. — Last year my stocks all wintered safely, but in spring two showed signs of disease, and were promptly united by doubling, with excluder between, à la S. H. Smith. I divided this doubled colony into two in early May, requeening with young Italian fertiles, and the new queens soon cleared out all trace of disease.

The moral is that no sensible person should heed the familiar advice to destroy I.O.W. disease affected colonies.

If weak, unite two or three together, requeen early with a select Italian queen, and there will be a powerful colony ready when the days come for honey gathering.

In *B.B.J.*, February 17 (page 72), Mr. Simmins refers to "known methods of cure," and while these methods include antiseptic spraying, also feeding with medicated syrup, the real basis remedy lies in giving a young vigorous queen to each affected colony.

Mr. S. H. Smith prescribes similar treatment, and my personal experience proves that both these practical "commercial" beemen are perfectly right in asserting that, given commonsense treatment, no colony need ever be lost through I.O.W. disease.

On the other hand, we read Press reports of Mr. W. Herrod-Hempsall and Mr. Jos. Price being at a bee-keepers' convention last year, where a resolution was passed declaring I.O.W. incurable, and advising destruction of all affected colonies.

Here we have a direct conflict of opinion among experts, and the rank and file of bee-keepers who look to the *B.B.J.* for guidance are entitled to an explanation of the sweeping assertions endorsed by the late Editor and Mr. Price.—J. M Ellis, Gretna, Carlisle.

February 19, 1921.

Neither Mr. W. Herrod-Hempsall or Mr. J. Price are responsible for reso-

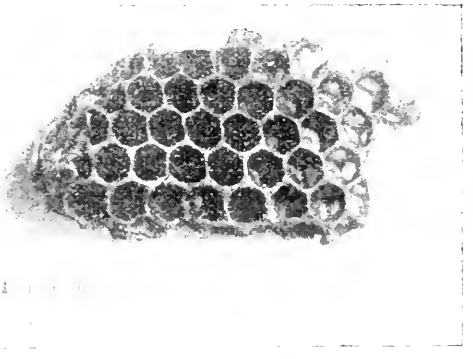
lutions passed at meetings where they happen to be present, nor does it follow that they agree with them. If so, a weathercock would be a fixture in comparison.—EDS.]

The New Worker Cell.

Special interest is being shown by beekeepers who have had an opportunity of examining the new metal comb foundation (popularly known as *Adminson's Semicomb*) in the new worker cell originated, which considerably increases the utility of the invention.

With due allowance for the negligible waste resulting from the suspension wires, the "Semicomb" in British standard size is calculated to possess over 400 extra cells than a corresponding model of any other comb or foundation in existence, whether in wax or metal. For the Simmins size the increase in cell area is still more appreciable.

A good deal of observation and study have justified the evolution of this new worker cell, which is an important feature of the appliance and an integral part of it. Careful examination of skep combs has been methodically carried out, especially of those built by Dutch bees—which belong to the large races of hive bees—and measurements taken of the various sized worker cells in which breeding has taken place, such as the specimen illustrated below :—



SKEP COMB, NATURAL SIZE.

Study of the hatching results and after-effects on drones from drone layers reared in worker combs (last year's bad mating season specially facilitated this) and of Italian and Dutch workers from combs built by Egyptian bees, also assisted by other positive and negative evidence, have justified the adoption of the new cell as *the most economical cell*, which is not without parallel in Nature, though not regularly adhered to. Before commercial production, this evidence was submitted for criticism to various leading experts of different schools, who did not hesitate to endorse its adoption.

British weather neither presents Scandinavian cold nor tropical heat, and this, perhaps, is the reason for the successful results obtained in this country with the artificial comb or comb foundation when correctly made and properly used.

We shall be interested in reports on honey-extracting results, more particularly in the novel suggestion of heather-honey extraction by powerful centrifugal force. Whether an appreciable amount of heather honey can thus be obtained without the usual trouble and sacrifice of comb remains to be seen. If success can be achieved in this direction, that alone will justify the evolution of the "Semicomb."

Spring.

Bees! Bees! Their time is coming, and their hopeful, enlivening, bewitching, soothing sound is beginning to be heard in the air. They give a soul to the sunshine and endow the day with message and a meaning. It is only the bee fraternity can have an idea of the loneliness, the disappointment, the deadness that weigh on the heart of him whose bees have "gone West." Oh! the dismal atmosphere that surrounds the empty hive that once teemed with life and activity. If the Government would know what the "present situation" means to the genuine beeman it would not have dropped the question of protecting and developing the industry. The little creatures are full of tricks and pranks, but at the same time are quite manageable

to him that is able to manage himself. They are quite prepared to be persuaded to accept any treatment and put up with any condition. There is a bee buzzing on your clothes, feeling for a favourable place to drive her sting. She is very threatening and uproarious, but offer her a wee drop of anything pleasing—a drop of syrup or honey—and instantly the spirit of vengeance is gone and she is an embodiment of pleasantness and goodwill. They are inveterate beggars; once you start feeding them, and they get to know you and your liberality, they will follow you right round the yard, dropping on your hands and searching everything you carry, looking for more. Do I get stung sometimes? Yes, but as a rule the fault is mine. Some colonies are of a milder disposition than others—with these you can do any manipulation without intimidation: then you go to another of a different temperament, quite absent-mindedly, then you catch it. There is a kind of individuality belonging to every colony, and you will have to pay the penalty for ignoring the fact. Let us hope that the coming summer be a dry, warm, and a long one; that all queens, bees, and combs be renewed; that this terrible pest that is raging be conquered and crushed.—BEE LOVER, 25/2/21.

British Bee-Keepers' Association.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, February 17, 1921.

Mr. W. F. Reid presided, and there were also present:—Miss M. D. Sillar Messrs. G. S. Faunch, G. R. Alder, G. J. Flashman, G. Thomas, G. Bryden, J. B. Lamb, J. Herrod-Hempsall. Association representatives: — Lady Katharine P. Bouverie (Salisbury), F. W. Frusher (Lincs), R. R. Babbage (Middlesex), E. G. Waldock and W. E. Hamlin (Surrey), F. E. Watts (Herts), and E. Ff. Ball (Bucks).

Letters of regret at inability to attend were read from Sir Ernest Spencer, Messrs. T. W. Cowan, W. H. Simms, G. W. Judge, J. Price, A. G. Pugh, C. L. M. Eales, and F. W. Harper.

The minutes of the previous meeting were read and confirmed.

Lady Katharine P. Bouverie was elected a life member.

The following new members were elected: Messrs. H. P. Young, N. Vaslet, C. L. N. Pearson, A. W. Gale, and J. C. Hayward.

The following Associations nominated representatives and all were accepted:—North Devon, Huntingdonshire, Peterboro', Somersetshire, Herefordshire, Gloucestershire, Carmarthenshire.

The report of the Finance Committee was presented by Mr. Bryden, who stated that payments into the bank for January amounted to £36 16s. 6d., the bank balance on February 1 was £150 11s. 7d.; payments amounting to £74 7s. 4d. were recommended.

The audited balance sheet for 1920 was received and ordered to be printed with the report.

Arrangements were made for the Final Examination to be held on May 27 and 28, 1921

It was resolved that with a view to co-ordinating the activities of the Beekeeping Associations in England, Scotland and Ireland, the latter two National Associations be approached as to their views with regard to the formation of a committee composed of representatives of each Association for this purpose.

Durham County Bee-Keepers' Association.

The general annual meeting of the above Association will be held in the Lecture Hall, Central P.M. Church, Cockton Hill, Bishop Auckland, on Saturday, March 12, 1921, at 3.15 p.m.

We are to be favoured with a visit from the Ministry's Bee Expert and Adviser, Mr. William Herrod-Hempsall, F.E.S., also the secretary, etc., etc., B.B.K.A., who will lecture at 5 p.m. in the schoolroom adjoining. The lecture will be illustrated by lantern slides, when bee-keepers, smallholders, cottagers and the general public are cordinally invited.—JOHN WATSON EGGLESTONE, Hon. County Secretary.

Staffordshire Beekeepers' Association.

ANNUAL MEETING.

The annual meeting was held on Saturday, February 19, in the County Education Buildings, Stafford, the Rev. A. R. Alsop presiding in the absence of the president (Colonel A. H. Heath).

In his opening address, the chairman referred to the fact that a good deal of foreign honey was being brought into this country, and said what was wanted was to get our own native bee-keeping industry in a flourishing state so that they would be able to compete with the foreigner.

The annual report, presented by the secretary, stated that the past season had been a bad one from the bee-keeper's point of view. The year had started with a membership of 327, and during the year there had been a net loss of 22 members, due to in five cases death and

others through resignation. The statement of accounts showed a balance in hand of £32 14s. 7d., as compared with £31 3s. 10½d. last year. In view of the continued rise in the price of everything the members' subscription would in future be 5s., and for cottagers 2s. 6d. During the coming season meetings would be held at different apiaries in the county. The Staffordshire Agricultural Society exhibition at Burton-on-Trent promised to be a good one, as several members had already promised to exhibit, and as the B.B.K.A. had decided not to have an exhibition at the Royal Show at Derby, all bee-keepers were urged to concentrate on the county show.

The report and statement of accounts were adopted, the chairman saying that he was sure they felt that the secretary had done his very utmost.

Colonel Heath was re-elected president; the Rev. A. R. Alsop, Mr. J. Kendrick, Mr. H. J. Bostock, and Mr. J. T. Homer, vice-presidents; Mr. W. M. Valon being added. Mr. W. Griffiths was re-elected hon. secretary and treasurer, Mr. J. Rogers auditor, and Mr. W. M. Valon representative on the British Bee-keepers' Association.

Mr. W. M. Valon brought forward a motion with regard to the Bee Diseases Bill, which was recently withdrawn from Parliament. He pointed out the necessity for such a Bill to prevent disease, and criticised the opposition to it, which he said emanated from the trade of makers of bee appliances. The resolution, which was unanimously adopted, was as follows:—"That this Association at its annual meeting, regrets the withdrawal of the Bee Diseases Bill, as they feel it is absolutely necessary that there should be legislation dealing with bee diseases.

Medals and certificates were presented to the following:—Staffordshire Agricultural Society.—Light honey: Ben Warrender, British B.K.A. (silver); J. Crosseley, B.K.A. (bronze). Medium honey: Miss K. Capewell (silver); F. Jolley (bronze). Extracted honey (novice): Miss J. G. Ashton (bronze); cottagers', Miss K. Capewell (bronze).

Uttoxeter Agricultural Society.—Mrs. Dobson (silver).

Blythe Bridge Agricultural Society.—E. Stamer (silver); Mrs. Dobson (bronze).

British Bee-keepers' Preliminary Certificate for Expert.—Miss Kate Capewell and Messrs. J. B. Leighton, W. E. Sandars, and J. C. Anderson.

Staffordshire Bee-keepers' Certificate of Merit for Honey Judging Competition.—W. Griffiths, W. Freud, G. H. Mytton, B. Warrender, G. W. Buttery, J. Cowlishaw.

Trade Catalogues Received.

Messrs. Jas. Lee and Son, George Street, Uxbridge.—In addition to the usual well-known and well-made appliances manufactured by this firm, their 1921 catalogue contains several novelties, including the new Adminson semi-comb—the best metal comb we have yet seen. Several new designs in hives and other appliances are also listed.

Messrs. E. H. Taylor, Ltd., Welwyn, Herts.—Messrs. Taylor have made quite a new departure in the get-up of their catalogue. Everything likely to be needed in an apiary is listed, and the catalogue is profusely illustrated. A few hints to beginners are given, which it would have been better had they been written by someone with a sound knowledge of bee-keeping matters.

Messrs. Steele and Brodie, Wormit, Fife.—This also is a well got-up and illustrated catalogue. Messrs. Steele and Brodie are agents for Messrs. Dadant and Sons' well-known foundation. Being situated in the country of heather honey, this firm naturally cater more for the heather honey producer than do other manufacturers. Several novelties are listed, including the "Master" candy feeder, a very useful pollen feeder, and other appliances. A couple of pages of useful hints for beginners are given.

Messrs. Pearson and Gale, Marlborough, Wilts.—This firm, though newly established, have already acquired a reputation for the excellent quality of the bees and queens they supply. Appliances are not stocked beyond foundation, frames and candy. Their speciality is guaranteed six-frame stocks.

F. M. Claridge, Copford Apiaries, near Colchester.—Mr. Claridge has a reputation second to none for the quality of the nuclei sent out by him, and the same may be said of his queens. Nothing better than the "Claridge Quality" nuclei can be obtained, a three-comb nuclei having all three combs packed with brood. Mr. Claridge also supplies a hive of his own design—the "Copford" Conical W.B.C. hive, a rim to adapt existing brood boxes for taking larger frames, and a very useful queen-introducing and nucleus cage.

Mr. R. Whyte, "Orme Lodge," Cumbernauld Station, Dumbartonshire.—Mr. Whyte makes a speciality of Dutch bees. No other variety are listed in his interesting illustrated price list. The bulk of its 24 pages is taken up with details of the Dutch bee and hints on its management. Those who fancy this variety cannot get them from a better source than Orme Lodge Apiary. Mr. Whyte is agent for

the best known and largest bee-keeper in Holland, Hans Matthes. Like other bee dealers, Mr. Whyte supplies a hive of his own design, and also the "Whyte" nucleus cage and queen introducer, a safe and useful appliance.

Catalogues may be obtained from all or any of the above post free on application.

Weather Report.

WESTBOURNE, February, 1921.

Rainfall, ·29 in.
Heaviest fall, ·15 in. on 1st.
Rain fell on 3 days.
Below average, 1·90in.
Maximum temperature, 55 on 16th.
Minimum temperature, 27 on 27th.
Minimum on grass 20 on 10th.
Frosty nights, 6.
Mean maximum, 46·8.
Mean minimum, 37·0.
Mean temperature, 41·9
Above average, 2·9
Maximum barometer, 30·823 on 27th.
Minimum barometer, 29·561 on 1st.

L. B. BIRKETT.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

A. REED (Sussex).—*Disinfecting hives.*—It is quite possible to disinfect the hives. The best method is to scorch the inside with a painter's lamp, and wash all other parts with disinfectant and water. If a painter's lamp is not available, apply (with a paint brush, for preference) a strong solution of some bactericide or disinfectant, carbolic acid or "Izal" will do, but we prefer "Bacterol," as it leaves no smell. If either of the first two are used, the hives, with parts separated, should be placed in an airy shed or the open air until the smell has disappeared.

"EXCLUDER" (Evesham).—*Making wire queen excluder.*—It is possible for a man handy with tools to make an excluder, but we cannot say if your plan would answer. We see a difficulty in confining the lead to a narrow strip. We do not know that plates such as you describe are made. You would have to get them made specially. Galvanised hard-drawn wire would answer, but it is somewhat rough; plated steel wire is much better. The wires must also be *perfectly straight.* No. 14 gauge will be right, and the space between wires should be 165-1,000 of an inch.

W. HEWITT (Wakefield).—The editor of the *New Zealand Bee Journal* is Mr. F. C. Baines, Kati Kati, Bay of Plenty, New Zealand.

H. DONNING (Devon).—It will be quite safe to use the combs if the honey is not fermented. The sections will be useful as "bait" to put into the racks of new sections. Put one or more in each rack, according to the number you have on hand. Uncap any sealed honey they may contain before putting the racks on the hives.

Suspected Disease.

"F. E." (Carm). "J. E. C." (Lincs).—The bees were suffering from Acarine disease.

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately **under the** *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* **3s.** *per* **¼in.,** *or* **5s.** *per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of* **6d.** *extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on MONDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

SEVERAL STOCKS OF BEES on six standard frames, 1920 Queens, good working strain, mid April delivery, 60s., carriage paid.—WM. CHANNELL, Grove Apiary, Histon, Cambs. n.157

25 PURE ITALIAN STOCKS, £5 5s. each; 15 Italian Hybrids, £5; 20 Blacks, Italian strain, £4; travelling boxes 10s. extra, returnable. Guaranteed healthy on arrival. Great satisfaction given to all customers last year.—J. YOUNGER, 6, Maid's Causeway, Cambridge. r.m.133

LIGHT CAMBRIDGE HONEY, guaranteed pure, 13-lb. tins, 21s. 6d.; 28-lb. tins, 45s., carriage paid.—J. YOUNGER, 6, Maid's Causeway, Cambridge. r.m.134

WILLOW-HERB, continuous bloom, roots 2s. 6d. dozen; Wild Hyacinths (Blue Bells), 2s. 100; carriage paid.—BRUMPTON, Thorpe Common, Rotherham. r.m.139

WHITE WYANDOTTE EGGS, 8s. 6d. dozen, Cam's; splendid winter layers. Chicks booked.—CHITTY, Burleigh Farm, Cassington, Oxon. r.m.142

HONEY, excellent Wiltshire blend, 7 lbs., 13s.; 14 lbs., 25s.; 28 lbs., 48s. 6d., including tins.—PINDER, 2, Endless Street, Salisbury. r.m.129

BEE-KEEPING.—Correspondence Course. Practical and theoretical study. Stamp.—MISS PALING, Golden Square, Henfield, Sussex. r.m.89

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

200 LBS. of good Honey for Sale. What offers?—MANAGER, Rudgwick Fruit Farm, Rudgwick, Sussex. n.18

WHITE LINCOLNSHIRE HONEY, granulated, 4 cwt., in 4 stone and 1 stone tins, 1s. 9d. lb., or offers for lot.—WHITE, Penny Hill, Holbeach, Lincs. n.31

WILL exchange W.B.C. Hive and Single-walled Hive for early Swarm or small Stock from Northern Counties or Scotland preferred.—CRONSHAW, 65, Richmond Terrace, Darwen, Lancs. n.15

WANTED, Geared Honey Extractor and Wax Extractor. State make, condition, and price.—HORNE, Grasmere, Dyke Road Drive, Brighton. n.1

FOUR Fertile 1920 Queens, immediate delivery, Italian or Hybrid, 10s. 6d. each.—Box 12, B.B.J. Office, 23, Bedford Street, Strand, W.C.2.

STOCK OF BEES in Uxbridge W.B.C. Hive, new last autumn; lady going away; £6.—M. J. LAMBOLL, Chiddingfold, Surrey. n.2

LARGE number of May and June strong natural Swarms. Offers wanted. — J. MOORE, Bleasby, Notts. n.4

WANTED, W.B.C. Hives, free disease, no rubbish, carriage paid.—DAVIES, 3, Talbot Street, Cardiff. n.5

FINEST ENGLISH HONEY, £8 per cwt: sample 3d.—DUTTON, Terling, Witham, Essex. n.6

HIVES, Supers, Sections, and Appliances; some never used; no disease; all bees sold.—GREEN, Winterley, Sandbach.

FOR SALE the undermentioned, as owner is leaving district:—Ten Hives with Bees of Dutch descent, on about 10 frames, strong and healthy, with racks of sections and lifts complete, £5 each; one "Conqueror" Hive with Bees, etc., £6 10s; one empty Hive, £1 10s.; Honey Ripener, £1 10s.; Separator, £1 10s.; large Honey Press, £1 10s.; Swarm Boxes (large), 5s.; Travelling Boxes to hold frames, 7s. 6d. each.—Apply, MAJOR HENDRIKS, Littlewick Meadow, Knaphill, near Woking. n.8

LINCOLNSHIRE HONEY, granulated, 28-lb. tins, 2s. lb.—WAIN, Thorpe Bank, Wainfleet. n.9

WANTED, in exchange, two Hives of Bees (one Native and one Ligurian preferred), or one with appliances, etc., to value of £10, for "Croad" Langshan Cock (1919) and three Pullets, or sell, Miss Croad's pure strain direct.—WEAVER, 25, Napier Road, Wembley. n.10

WILLOW HERB, excellent honey yielder, twelve 2s. 6d.—BOWEN, Apiaries, Cheltenham. n.11

WANTED, one Skep of Dutch Bees; must be healthy.—Lowest price, HARRIS, 53, Reckleford, Yeovil. n.14

WANTED, Honey Cans and Jars, exchange for fine Suffolk Honey, 1s. 9d. per lb.—HOGAN, Boxford, Suffolk. n.16

WHITE LEGHORN EGGS, 10s. dozen (Cook's 260-290 strain), also Runner Duck Eggs.—WILKINS, Mount, Chipping Norton. n.17

FOR SALE, pure Extracted Honey in 14-lb. tins. What offer?—ARTHUR ADCOCK, Meldreth, Cambs. n.27

ASSISTANT seeks situation with bee-keeper on commercial lines, or about to launch out; salary required; good knowledge apiculture and horticulture; working hours no object to good offer; references at wish.—EDWARD GRIFFITHS, Andmore, Gnosall, Stafford. n.29

BUSINESS ADVERTISEMENTS.
1½d. per word.

VACANCY for Pupil on the biggest Bee Farm in Surrey.—THE HEATHERLANDS BEE FARM, Thursley, Godalming. r.m.136

OFFER.—Pure Italian Queens or Nuclei, unrelated stock, 13s. 6d. comb.; Hybrids or Brown, 11s. 6d. comb, mid May, season permitting, carriage extra; case 5s., returnable.—A. H. HAMSHAR, Wonersh, Guildford. r.n.24

STATE your case and take advice from first-class expert. Postal order 5s. — DESMOND, Sheepscombe, Stroud, Gloucestershire. r.n.13

"WIGHT" DISEASE.—Prevention and removal. Invaluable advice, 5s. 6d. "An eye-opener."—ALF. RYALL, Whiteway Apiary, near Camp, Stroud r.n.169

ENSURE a good honey crop this year by purchasing our noted 6-frame Italian Stocks. Catalogue free on application.—PEARSON & GALE, Marlborough. r.n.173

ADMINSON'S SEMI-COMB. — For durability, utility, price of constituent materials, and excellence of manufacture, Adminson's Semi-Comb is by comparison one of the *cheapest* apiary appliances and yet one of the valuable assets for an up-to-date apiary.—ADMINSON, LTD., Benson, Oxon. n.175

KAT-A-LOG ahead of all.—MEADOWS, Syston, Leicester. r.n.176

SWARM CONTROL.—The secret of profitably managing prolific bees lies in the *Brood-Hatching Chamber*, the appliance that made the Dutch bee and other large breeders pay. Hundreds in regular use all over the country and abroad.—ADMINSON, LTD., Benson, Oxon. r.n.170

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THE CAPITAL THAT COUNTS: REPUTATION.—"I had from you two queens two years ago. Will you supply me with about six this year? Yours are the finest queens I have ever had—wonderfully prolific and disease resisting. Their progeny get honey while others starve."—W. J. P., Chesterton, Staffs., February 25, 1921. A typical unsolicited testimonial. We command our price. You command our standard.—ADMINSON, LTD., Benson, Oxon. r.n.171

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WHITE WYANDOTTE EGGS, 7s. 6d. for 13; White Leghorns, 288-egg strain, same price.—WELCH, Wickham, Hants. r.l.82

1921 HIVES AND APPLIANCES.—Write for list to ANDREWS & CO., Hive Works, 78a, Westgate, Peterborough. Quality the best. Immediate delivery. l.71

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ITALIAN QUEENS direct from Italy.—Address, ENRICO PENNA, Bologna, Italy. Price List for 1921 on application. r.k.121

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PURE GOLDEN ITALIANS.—For honey gathering and utility, no other bees can compare—and they cost no more.—E. COOMBER, Breeder of Superior Golden Bees and Queens, 64, Ronald Park Avenue, Westcliff-on-Sea. n.22

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READ "GLEANINGS IN BEE CULTURE," which gives you news gleaned from all over the world. Each month includes editorials on bee-keeping topics, honey market reports and crop prospects, a page on the use of honey in the kitchen, articles by well-known bee-keepers, etc., etc., 7s. per annum, post free.—Order from E. J. BURTT, Stroud Road, Gloucester. n.19

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PURE Imported Carniolan Queens, resist foul brood and severe winters, best honey gatherers. List on application.—B. WOODLEY, Thorne, near Doncaster. r.n.20

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WITH

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HONEY from 9½d. per lb.

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My Apiary will be open for a limited number of pupils during this season. Terms and particulars from

W. HERROD-HEMPSALL,
The W.B.C. Apiary, Old Bedford Road, Luton, Bedfordshire.

STRONG STOCKS FOR HONEY PRODUCTION THIS YEAR.

A limited number can be delivered in April, and will give a good honey crop.

A few first-cross hybrid stocks offered at £4 10 0.
Pure Italian stocks from . . £5 5 0.

These stocks are very strong and will cover 10 frames within 14 days of delivery. A few nuclei for delivery in May from **£3.** A few W.B.C. hives can be supplied at 1914 prices.

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A Fortune from 'White Star' Bees!

HOW EARLY MAY STIMULATIVE PROCESSES BE SAFELY COMMENCED.

(*continued.*)

Where this rousing activity is not started too early, the occasional return of snow or frost will not in the least affect the progress of the colony, if possessing a fair amount of pollen, with a constant supply of syrup or candy, or both, always at hand. But the syrup cannot be relied upon if offered them in a cold bottle-feeder above the quilt; and any candy supplied must be *under the quilt*, naked, and on the bare frames, or a large cake close to the cluster in a wired or other frame.

Except for safe storing before use, any sort of candy box is only fit for firewood. Feeding must be an active process if you wish for active, roaring stocks. Don't offer your bees food as if you are afraid they will take more than you can afford. Slow, passive, uncertain feeding is not stimulative, neither is it by any means constructive feeding.

THE DAILY AGONY.

There appears to be really but little diminution in the ravages of "Isle of Wight" disease, as every post brings reports of unfortunate losses among Blacks, Dutch, Italians and hybrids. Apiaries have been cleared out over and over again, and yet the unfortunate owners mostly want to start once again, and if possible, with bees that are more resistant.

DO HIVES, FRAMES AND COMBS CARRY INFECTION!

Probably never, unless soiled by excreta. Nevertheless, it is wise to disinfect everything before starting again. Quilts are easily replaced, and these as well as soiled combs may be burned. Other articles can be scalded and scraped, and then soaked in a bath of Izal solution (one teaspoonful to a pint of water), or hives well sprayed with same. Spray apparently clean combs with one teaspoonful of Izal to one quart of water a few days before use. Affected bees may be sprayed two or three times a week, if mild, with warm water and the latter proportion of Izal.

When feeding is necessary Izal should always be used (one teaspoonful to 8 lbs. sugar), and well stirred in when cooling below 100 deg.; and fed at near that temperature. In autumn, especially, the food should be given rapidly, and this method even without medication should largely help to throw off disease, because of the new life and vim induced thereby.

As a great precaution and help in staying infection I have advised numerous applicants to procure an ounce of oil of aniseed, and pour three or four drops down each corner of the stock hive on to the floor, repeating after eight or ten days one drop each corner. If desired to feed with same, one drop to one pound of sugar should be beneficial. I have no means of testing this myself, but correspondents have found it most helpful, and I am giving these items hoping that many others who have had losses may thereby endeavour to avoid any recurrence of their unfortunate experience. It will also save me repeating these instructions several times daily.

"The nucleus you sent me three weeks ago has developed into a strong stock, covering ten frames." Jas. W. McK.
August 17.

"It may interest you to know that out of thirty stocks in the spring of 1916 only *three* survived the I.O.W disease—the only stocks I had of the 'W.S.' blood.
Penrith, Cumb. W. V. S.

WHY DOES THE QUEENLAND APIARY REMAIN FREE FROM DISEASE, OR ANY SIGN OF SPRING DWINDLING?

In the first place it must be because of the intensive methods of selection and breeding such as have been carried out in no other apiary, for some 30 years past. None but young queens are used, and the methods of feeding adopted are so active and constructive that disease germs may find no ground for development

Even though it is known there has been no disease, no hives or nuceleus boxes are used the next season without first being washed out with strong Izal solution. Hives put in store, travelling boxes, etc., after autumn uniting, are thoroughly treated, the latter generally twice over, before being dispatched to fresh clients. Although constructive management or manipulation is more effective than medicine, I have, nevertheless, for some thirty years past used Izal in all food given to the bees, as one means of avoiding infection; and, during manipulations, Izal solution is constantly used in rinsing my hands.

Stocks at Nucleus Rate; Nuclei greatly reduced for 1921. S. SIMMINS, Queenland, Heathfield, Sussex.

Legislation for Bee Diseases.

We are urged by the strong feeling in the Craft over the delay in the introduction of legislation to maintain for this *vital* question both prominence and publicity. There is no doubt that many bee-keepers believe that the best interests of British bee-keeping have been betrayed by the Government through their policy of *false* economy. Having encouraged the expansion of the industry, the postponement of bee diseases legislation is simply in effect a negation of that encouragement, as well as a source of injury and keen disappointment to conscientious small bee-keepers, who have lately invested more capital in bee-keeping, anticipating Government protection. This is acknowledged both at home and abroad as being *long overdue*.

Bee-keepers feel that although the economical policy of the Government has forced the postponement of several Bills, the disbandment of several Advisory Committees and delay in the formation of others, some discrimination *should* have been made, unless much of the stirring messages from the M.O.A. to bee-keepers and the assurances of sympathy are to be considered as pure lip service and most of the money and labour invested in re-stocking work pure waste.

We sincerely hope that we shall very shortly see the Government make a sober recovery from their state of panic, following the Anti-Waste elections. It is a plain fact, for instance, that no expenditure worthy of the name is involved in convening the Bee Advisory Committee to consider the provisions of the Bill. It will cost the Government also very little to see it through Parliament. Even if the application of legislation is started very modestly or postponed for a while *after* the passing of the Bill a lot of good is *bound* to result. Indeed, a breathing space is sorely needed by the noisy clique for cleansing their apiaries and approaching the standard of their betters. From whatever angle the question of legislation is approached, one, and *only one*, conclusion confronts every thinking bee-keeper—namely, that there is no excuse whatever for not making an *economical start* with legislation *at once*, as all of us realise that even under favourable financial circumstances, the application of legislation must be made *gradually* in the light of knowledge and experience.

Both sincere supporters *and critics* of the present Bill, who recognise the boon of legislation in all countries where it is operating and wish to see the best possible measure applied in Great Britain, have given the M.O.A. full credit for its sagacious policy and honesty of purpose. The opportunists and quibblers alone belittled, and continue to belittle, what the Ministry have done to secure the unity of the Craft and their goodwill for making a success of legislation. The abusive circulars distributed by those who have their own reasons for fearing legislation have strengthened the cause for legislation more than ever. They have brought into sharp relief the commercial aims of the adventurers at the expense of the advancement of the craft. Their thin disguises and bombastic falsehoods have simply added to the disgust of every decent bee-keeper to whom such "literature" was presented. They are now giving more of their attention to an ungrateful ridicule of the Aberdeen researchers, who have toiled hard for advancing our knowledge, and are still developing their magnificent work. Very soon we shall have the first report of the fine research work done, with the first definite conclusions. The "*Instructions for the Control of Acarine Disease*" prepared by the Joint Committee on Research in Animal Nutrition of the University of Aberdeen and North of Scotland College of Agriculture, which we have pleasure in publishing in this number, will show the value of scientific knowledge in practice, and what sort of unbiased attitude is *sure* to be taken by the Bee Advisory Committee, when convened, in all details affecting the control of disease and the satisfactory progress of the industry. Such contemptible reflections on the Aberdeen researches, inspired by those who have an axe to grind, will only demonstrate once more to the public of what stuff the obstructionists and mean intriguers are made. No healthy unity for the Craft can be attained with them—they form the gangrenous part of a body that must be amputated; and when it is an insignificant part its loss will never be missed. The guilty offenders may be thrown with their friends into hysterics and indulge in all sorts of abuse against every one who will not make a clear road for them; but so far as we are concerned our space is not for the ventilation of recriminations or the exchange of abuse. We neither like it nor need it; it is the dirty weapon of the beaten culprit. And although we shall continue to open our space for discussions which are *devoid* of personalities, we strongly urge that pub-

licity in the Press alone will not suffice. Write also to the Ministry of Agriculture, pass resolutions, organise deputations, and do every conceivable and legitimate act to bring pressure on the Government. A last advice: *Do it now!*

Jottings from Huntingdonshire

A fine warm rain is falling, and the birds are full of song. The thrush and the blackbird, the chaffinch and the robin, the wren and the skylark, are all doing their best to fill the air with notes of joy, and even the sparrow with its "cheep, cheep," is determined to be heard. The lambs are frolicking in the meadows, and kids dancing on their mothers' backs, while buds are bursting everywhere. The ash buds have their typical March blackness, but seem ahead of former years. Does it mean that the ash is going to forestall to oak this year? It is a wonderful day—one of those days when Nature moves fast, "and whoever wakes in England sees some morning unawares." The soft, springy turf tells of life beneath the sod the rootlets moving, soon to send the blades uplifted against the force of gravity, the clover and ranunculi, the cuckoopint and marigold calling the bees to take what they so freely give. The bees are aware of a good time coming. The controllers of the hive have said "as soon as the rain ceases, go." We peep at the entrances—gateways to cities where many thousands dwell—and we see a great number of bees marshalled ready to issue forth, and when yonder patch of clear sky on the horizon has widened to show blue sky overhead, they will come forth like children from a school. A race takes place. Every bees is anxious to be the first back with pollen or nectar. Two will alight simultaneously, and in their eagerness to get within are pulled up suddenly by the sentinels. They, in their haste, have forgotten their manners and have omitted the salute. They are sent back a few inches, and, lo! others alight, and, saluting, enter and so forestall the hasty two whose pride has had a fall. It would never do if the laws of the hive were disobeyed, without discipline all would be chaos within.

Breeding is now in full swing, and the bees are increasing apace. Those needing syrup will soon be independent of any artificial food. Syrup feeding is a poor substitute for comb scratching in spring, and those hives wintered on 30 lbs. of stores are in better heart than those wintered on twenty and fed with syrup. Despite the fact that one gives syrup in quantities which can be taken down in a night, a large number of bees will spend most of the day smelling around the feeder instead of getting about their business. Feeding is necessary in the autumn, it is necessary when stocks are weak, and it is sometimes advisable to feed swarms for a few days, but I personally do not advise artificial feeding to strong colonies stocked with stores, even to stimulate breeding.

I notice that the young bees from Italian queens are very sparsely provided with golden bands. Dark, almost copper bands behind the thorax, and the rest of the abdomen tapering off to walnut brown describes the marking of these bees. One does not mind. The craze for fixing colour is a bane rather than a blessing. While fixing colour one can easily fix something else — a predisposition to disease. A disease resistant strain of bees is of far greater importance than a golden bee, or a red bee, or even a self-coloured bee. At the same time, if one orders golden banded Italians I presume they are expected to show a reasonable amount of Italian markings.

At a committee meeting of our County Association last week a member stated that although his bees were alive and promising, surrounding him were stocks *rotten with disease, and he was powerless to get these sources of infection removed.* One knows or hears of parallel cases from every part of the country, yet THE BEE DISEASES BILL HAS BEEN POSTPONED! A letter from Scotland reads, "I have lost over 300 stocks diseased; can nothing be done?" If the present Bill is—as some allege—badly drafted, could not those great bee masters who have joined the ranks of the opposition draft one and enable the Ministry of Agriculture to effect a healthy compromise which would be as fair to the man with one stock as to the man with one hundred?—E. F. HEMMING, Steeple Gidding, March 12, 1921.

Total Value of Honey Imports for 1920.

	£
January	38,099
February	15,543
March	18,963
April	7,854
May	15,183
June	30,493
July	2,460
August	27,905
September	34,947
October	14,234
November	8,187
December	10,333
	£224,201

A February Swarm.

The following experience may be of interest to your readers, who can perhaps explain the cause of it.

During one of the warm sunny days of the past week (February 25), when the bees were active, I opened a hive in order to ascertain if brood-rearing was progressing. The bees being very quiet, I used no smoke. I found no brood, but saw the queen, a young one which had laid the previous autumn, and noticed plenty of stores and the combs well covered with bees. I closed the hive quickly and quietly, and, fearing robbers, narrowed the entrance to a single beeway. Two days later, noticing robbing in progress at this hive, I sprinkled flour on the bees leaving the hive, in order to find out which stock was doing the robbing, so that I might then interchange the two hives and thus stop the trouble. I may explain I have two apiaries distant several hundred yards apart, and was surprised to find the culprits did not come from the hives close by, as I easily traced the floured bees to three hives in the further apiary. I then closed the entrance completely before moving, the hive having a two-storey brood chamber, thus providing plenty of air space, but hearing a loud hum proceeding very shortly from inside I re-opened the entrance to allow the robbers their liberty, when a whole swarm issued forth pell-mell, which lasted for a minute or two. The following day, on lifting the quilt to make sure that sufficient stores remained, lo and behold! not a single bee was to be found, the queen evidently having left the previous day with the robbers and all her following. Had there been brood in the hive I presume this would not have occurred.

How did the robbers from the three distant hives communicate with each other? It is easy to explain how the news spreads through a single colony, but these hives were widely separated, and why did not the neighbouring stocks join in the plunder? And why did the queen and her following swarm out?—C. HOGAN, Boxford, Suffolk.

Our Clubbing Offer.

Several readers have already sent 20s. in response to our offer made on page 89, March 3, of a combined subscription to the *Bee World* and THE BRITISH BEE JOURNAL. We thought we had made it clear that this arrangement does not come into force for either the subscription or rebate on advts. until June; that is, *they commence with the June issue of the "Bee World" and* THE BRITISH BEE JOURNAL *for June* 2, and not earlier. Subscriptions sent now will only cause confusion.

Control of Acarine Disease.

The following is a copy of the instructions referred to in our Editorial:—

UNIVERSITY OF ABERDEEN AND NORTH OF SCOTLAND COLLEGE OF AGRICULTURE.

JOINT COMMITTEE ON RESEARCH IN ANIMAL NUTRITION.

BEE DISEASE INVESTIGATION.

Instructions for the Control of Acarine Disease.

1. Weak stocks which crawl in spring should be examined for *Tarsonemus woodi*. If found, the stock should be destroyed. This may be done by burning sulphur within the hive. Such procedure will at the same time disinfect the hives, frames, and quilts.

2 Owners of stocks weak from any cause, should adopt every possible means to prevent robbing.

3. For the present, it seems desirable to exercise the greatest caution in purchasing bees. These should be obtained only from apiaries with no recent history of disease. With regard to bees offered for sale from districts where the disease is prevalent,. it should be borne in mind that Acarine disease may be present in a stock, while as yet collective crawling has not developed.

4. With a view to preventing, as far as possible, the mingling of bees of different stocks, avoid placing hives of similar appearance in rows. If this is done the hives should show some distinctive colouring

5. General advice

(*a*) Do not attempt to winter stocks known to be diseased.

(*b*) Destroy weak stocks in spring which crawl from Acarine disease.

(*c*) If the disease show in summer before or during the honey flow—

i. Do everything to stimulate breeding, re-queen if thought desirable.

ii. Use a crawler trap, empty it daily, burn the dead bees, never return crawlers to the hive.

iii. If the stock become weak, prevent robbing and destroy as soon as foraging shows failing signs.

iv. Control, as far as possible, the entrance of drones to hives.

Note.—The only reliable test for the presence of Acarine Disease is the finding of the infective organism itself within the bees. If reported present, the procedure to be adopted must be determined by the proportion of infected bees in the stock, the season of the year, the age and qualities of the queen, the district and amount of disease already prevalent within it, the proximity of other stocks either in

the same or other apiaries. The advice of experts should be taken in estimating the particular importance to be attached to these matters.
February, 1921.

Obituary.

DEATH OF WILL HAMPTON.

By the death of Will Hampton, at Mortlake, one is gone from us who will be missed in many ways. Both as colleague and friend Will Hampton was well worth knowing. He had been a lifelong sufferer from asthma, and his perseverance and energy often reminded me of "Lordswood" and his labours under affliction. His bee lectures, which, though most instructive, were delivered under trying conditions; in fact, his last lecture was painful to all of us who listened to him. It must have been a relief to him, as it was to us, when it was finished. Death claims him at the age of 53. A native of Richmond, he had lived at Mortlake for many years. He did a great deal of public and philanthropic work. He was outside surveyor at the Mortlake Brewery of Watney, Coombe, Reid & Co., and also had charge of the Mortlake buildings. He was for fourteen years on the Barnes Council, and had the honour during this period of being chairman of every committee of that body. He was specially concerned with the inauguration of the sewerage and the electric light works, he being the first chairman of the latter committee. He was for many years the Barnes member of the Richmond Main Sewerage Board, and rendered valuable aid on local committees, such as the War Pensions and Food Control. He was a philanthropist and a prominent Freemason. His only child—a son—was killed in the War (two days before his twenty-first birthday). This was a terrible blow to him. As an engineer he worked out many ideas—some in bee-keeping. Perhaps he will be best known to the majority of bee-keepers as the inventor of the Hampton uncapping knife, the sole right being since purchased by Lee & Son, Uxbridge, and is illustrated in their list for 1921. He tried hard to raise a disease-resisting strain of bees, and claimed to have made much progress. It was a matter of great regret to me when he sold all his bees about two years ago—yet who could blame him for cutting down his labours?—A. G. GAMBRILL, Richmond, Surrey.

DEATH OF MR. R. GILES.

It is with regret we have to announce the death of one of the oldest and most respected members of Derbyshire Association, Mr. R. Giles, of Etwall, whose end was accelerated by the effects of a nasty trap accident which occurred a few months ago. For a time he showed signs of regaining his strength, but, unfortunately, suffered a relapse, and succumbed to an attack of asthma. An enthusiastic bee-keeper, Mr. Giles was elected chairman of the Association in 1906, which duties he discharged with unfailing courtesy, tact, and ability until a year ago, when his hearing became impaired, and he felt compelled to relinquish that office. As a slight appreciation of his long and invaluable services it had been arranged to present the deceased with an address at the annual meeting on the 12th inst., but—too late. His remains were interred at Newport (Mon.) on March 4, and our warmest sympathy is extended to the bereaved family.—F. MEAKIN, Hon. Sec., Derbyshire Bee-Keepers' Association.

British Bee-Keepers' Association.

Will members kindly note that the secretary will be abroad for a fortnight. Correspondence will therefore be delayed.

LECTURES AT GOLDERS HILL PARK.

A special course of six lectures on bee-keeping will be given in the British Bee-keepers' Association's apiary, London County Council Park, Golders Hill, London, N.W., on Fridays, April 22 and 29, May 6, 13, 20, and 27, at 6 o'clock each evening.

Those desiring to attend these lectures must make application at once for enrolment and particulars to—W. HERROD-HEMPSALL, Secretary, 23, Bedford Street, Strand, London, W.C.2.

A simple "chat" on bees will be given free, at 3.30 each afternoon, before the lectures.

Twickenham and Thames Valley Bee-Keepers' Association.

ANNUAL MEETING.

The second annual general meeting of this Association was held on Tuesday, February 22, at the Public Library, Twickenham. The Rev. R. Dixon Box presided.

The committee's report for 1920 showed a considerable increase in the membership, the total on the roll being 75, a net gain of 32.

Seven committee meetings were held with an average attendance of five.

The active educational policy had been continued, eight lectures having been given by Messrs. W. and J. Herrod-Hempsall and A. G. Gambrill; the last-named represented the Association at the exhibition of the Twickenham Poultry and

Rabbit Association. Except in Twickenham itself the attendance at the lectures was not large.

The Twickenham Horticultural Society again invited co-operation in connection with its annual exhibition held on September 15, at which the Association offered for competition among its members the silver and bronze medals and certificates of the B.B.K.A. The committee also accepted an invitation to be responsible for the judging and general control of the honey classes at the Hounslow and District Allotment Association Show at Hounslow. The event of the year was the opening of the Association's Apiary on the ground kindly lent by Mr. F. A. Secrett. The hon. treasurer, the Rev. R. Dixon Box presented the balance sheet, which showed a very satisfactory balance in favour of the Association.

Both reports were adopted.

The president, Sir William Joynson Hicks, M.P.; vice-presidents, Mr. C. D. Burnet and Mr. Cyril Routh; hon. treasurer, Rev. R. Dixon Box; hon. secretary, Miss M. Byett; and hon. auditor, Mr. W. F. Woodliffe, were all re-elected, and the following were appointed a committee: Mr. Fox, Messrs. M. H. Auger, C. D. Burnet, J. Curtis, H. A. T. Packford, G. Patterson and G. B. Willett.

At the conclusion of the meeting great interest was displayed in an ingenious hive appliance invented by Mr. J. Watson of Ealing.

The Association has been unfortunate in having for the first twenty months of its existence two of the worst seasons on record, but, on the other hand, it is just such times of difficulty which show the value of comradeship, and much has, no doubt, been accomplished by affording opportunities for mutual encouragement in the face of disappointment.

Members and all persons interested in bee-keeping are reminded that Mr. W. Herrod-Hempsall will lecture on April 12 at 7.30 at the Library, Twickenham.

South Staffordshire and District Bee-Keepers' Association.

ANNUAL MEETING.

The annual meeting of the above-named Association was held on Saturday, February 12, 1921, at the Station Hotel, Dudley.

There were a good number of members present, including Messrs. C. H. Hipkins, J. Price, vice-presidents; E. B. Whitehouse, Esq., Messrs. E. C. Middleton, A. Cheshire, C. C. Thompson, Rev. W. H. Richardson, and others.

Mr. E. H. Hipkins presided. The hon. secretary read the report for the year, and said two summer meetings had been held during the year, one at Tipton, the other at Hagley Hall Gardens, and a members' show at Dudley. The meetings were very successful, both in members attending, and in instructive address and demonstrations. There had been four committee meetings held, at which very useful work was done.

The number of members was an increase on the previous year—22 new members had joined the Association and 13 had resigned.

The balance-sheet showed that 109 members had paid their subscriptions for the year, amounting to £27 2s. 6d., an increase of £8 15s., as compared with last year.

The expenditure during the year was large, in consequence of the extra stationery and printing being provided. The balance carried forward to 1921 was £9 0s. 8½d.

The officers and committee were appointed for 1921.

Tea was provided by the hotel proprietor, after which addresses were given by A. B. Whitehouse, Esq., on the Bee Disease Bill.

Explaining the Bill, he said that since coming to the meeting he had heard that the Government had decided to drop the measure for the present. At the close of his address a resolution was passed, assuring the Ministry of Agriculture that the Association were in accord with the measure, were sorry that it was found expedient to drop it for a time, and would give it their support on it being re-introduced

An address by Mr. G. F. Stubbs, on "Hints for Bee-keepers," said the bee-keeper should aim at this season of the year to get the hive well stocked with bees, ready for the honey flow afterwards, to feed slowly and to keep them warm and clean.

An address by the hon. sec., W. J. Walton, on "Improving the Usefulness of the Association," said the Association, amongst other things, was instituted to give instruction, guidance and help to its members, and suggested how some of the methods of the Association could be improved, mentioning: That the Association area be divided into sections or districts; that lectures and summer meetings be held in each district; that the Association establish a lending and reference library of the best books on bee-culture. A discussion followed, and a resolution was passed, to refer the points raised by the secretary to the committee. A vote of thanks to the chairman and the speakers terminated a very successful meeting.

The Nottinghamshire Bee-Keepers' Association.

ANNUAL MEETING.

The 36th annual meeting of this Association was held in Nottingham on Saturday, February 26, when Mr. A. Riley, Beeston (in the absence of the Sheriff), presided over a representative gathering of over 100 members and friends, including some from Derbyshire and Sheffield Associations.

The committee's report, read by the secretary, stated that the past year had been a very successful one for the Association, a large amount of work had been done in the way of lectures, demonstrations, shows, and visiting, and especially in the re-stocking apiaries, all applicants for nuclei having been supplied. This work had been greatly assisted by the grant from the Notts County Council, and with the cordial co-operation of the Horticultural Organiser, Mr. C. Taborn.

Her Grace the Duchess of Portland was thanked for her services as president, and re-elected for the ensuing year with acclamation.

The auditor, Mr. Riley, was cordially thanked for his services, and unanimously re-elected, as were also the district secretaries.

The executive were re-elected, with the addition of Messrs. E. L. Walton, W. E. Cowlishow, and G. R. Bostock.

As the committee had been unable to find a suitable person to take up the secretarial duties, Mr. Hayes consented to continue for one more year, and he was cordially thanked and re-elected.

Messrs. Pugh and Hayes were re-elected as representatives to the B.B.K.A.

It was resolved that in future the subscription should be not less than 5s. per annum, except in special cases to be submitted to the local and general secretaries.

After an adjournment had been made for those present to partake of tea, the meeting was resumed as a conference at 6 p.m., when Mr. Joseph Price, the expert for Staffordshire, gave a very interesting and instructive address on his work in that county, which was well received, many questions being put to him which were answered; afterwards a very hearty vote of thanks was accorded him.

There were also the usual prize drawings at this meeting, which was one of the best we have had for years, and augurs well for the revival of interest in the industry.

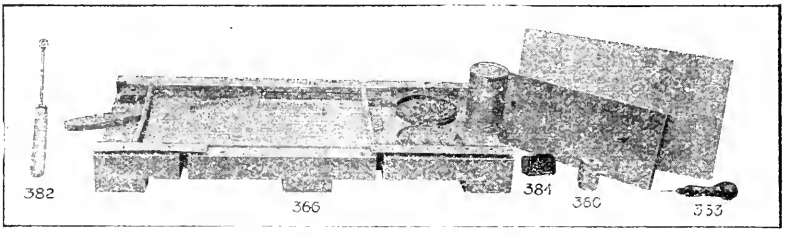
(*Communicated.*)

Novelties for 1921.

THE "BOWEN" WIRING BOARD.

We have pleasure in giving a description of a new device, which has been given the above name, embodying several fresh features for wiring and fitting foundation in frames.

The accompanying illustration shows



THE "BOWEN" WIRING BOARD.

the construction of this board. It includes a gauge for boring frames and arrangements for wiring, fitting the foundation, and embedding.

The spool of wire is contained at one end of the board in a special holder, enabling the wire to be drawn out as fast as required, without risk of kinks. Any size spool can be used. The lever at the left-hand side is for tightening the wires.

An arrangement to open the top-bar for fitting foundation is provided, as well as boards for supporting the foundation while embedding. Thus all these operations are quickly performed by the aid of one board, which may be used for nailing frames.

Its simplicity and moderate price should commend itself to every bee-keeper, and it should meet with a large demand.

This board can be obtained from A. H. Bowen, Cheltenham.

For standard or shallow frames, 6s. 6d.; or including reel of wire, spur embedder, bradawl, etc., 9s. 6d.; which make a convenient outfit.

Appliance Manufacturers and Legislation.

[10,403] Mr. Thomas in his letter (10374), published on January 27, passes several strictures on my letter *re* appliance makers and legislation.

Mr. Thomas does not seem very clear in his criticism, or else I am so dense that I miss the point of his argument. Surely he cannot mean that to call a private meeting eleven months after the event is promptitude for which he feels indebted! Again, he arrogates to those invited the fact that they are those who alone have a substantial interest in the craft. I must differ entirely. I have yet to learn that the *craft* was at all well represented at Charing Cross. It might be illuminating if a list of those exceedingly eminent persons could be published. I know a few who might certainly lay claim to distinction, and these were classed among those not worthy to be invited.

With regard to Messrs. Taylor's right to inform themselves as to how their business might be affected, this is beyond dispute, and I least of all desire them to support anything they believe might be harmful to their prosperity. That any other consideration entered into the matter I may have my own opinion about. All that was asked for was that it should be openly done that we lesser lights might learn where the weaknesses of legislation lay.

I assert that the Bill was read clause by clause, and no serious opposition made to it. As to being in favour of legislation I notice *those who try their utmost to prevent every Bill from passing are always in favour of some form of legislation.* I do like people who know what they want and who are not afraid to say what it is.

Really, however, the reason I reply to Mr. Thomas is this: He blames me for mentioning standard hives, and says this is a question for bee-keepers only, and should be settled by the Council. Well, it does appear strange that the appliance makers must not be asked to decide on the make or shape of their appliances, but must be allowed unchallenged to wreck the work of the Council and dictate as to the need of the bee-keeper at large.

Surely the hive question should interest the makers.

If Mr. Thomas will carry his memory back to the meeting he refers to, he will remember the great stumbling block was the fact that *the makers would not fall into line.* May I suggest that if Messrs. Taylor's assertion is true (*re* the biggest business), and if they really have the interest of bee-keepers at heart, they call a meeting of appliance makers and try and come to some decision on this point. I may say that these gentlemen meet to discuss and settle other matters, so they could easily include this question, and I am sure if they will do so the Council will be pleased to settle the point of size, etc. Lastly, may I suggest to Mr. Thomas that we are elected on the Council to carry out the wishes of our members? As the great majority are in favour of the Bill it might be as well that he should consider his position in relation to this fact.—G. J. Flashman.

Staffordshire Annual Meeting v. Royal Show, Derby.

[10,404] While I wish the Staffordshire B.K.A. every success at their annual exhibition, I would like to remind them a honey competition will be held in connection with the Royal Show at Derby, and will be run under the management of the Derbyshire B.K.A. I hope all bee-keepers will show a sporting spirit and rally round us, and keep the old flag flying. We want your support, by entries and financial help. Schedules will shortly be ready. J. Pearman, 78, Longford Street, Derby.

Weight of a Queen.

[10,405] Surely our friend Mr. Hemming, in your issue of February 17, has made a mistake about the weight of a queen bee, as .005 part of a lb. would equal 1-200th part, which means that 200 queens would weigh 1 lb. As an amateur I should imagine it would be nearer 2,000, and if this is the case it is most likely Mr. Hemming meant to write .0005, or can we perhaps blame the compositor?

Will you kindly tell me whether it is all right to use sections which were put on last year but now drawn out? The bees seem to have only fixed the edges of the wax to the wood.—W. J. Willmot.

[The sections may be used if they are clean.—Eds.]

Location for Bee-Keeper.

[10,406] With reference to W. Armstrong's letter asking for particulars of a suitable location for an ex-Service man to start bee and fruit farming, I would suggest Canada, where both the fruit and bee businesses are profitable. The ex-soldier would find it safest to work with an expert in the bee business for a season, during which time he could pick up a

lot of reliable information as to good locations. The following advertisements appear in this month's *Gleanings*. Both the advertisers have extensive apiaries, and are very well known among bee-keepers all over North America :—

"Help wanted.—Will give experience and fair wages to active young man, not afraid of work, for help in large, well-equipped set of apiaries for season starting in April. State present occupation, weight, height, age, and bee-keeping experience (if any).—Morley Petit, the Petit Apiaries, Georgetown, Ontario, Canada."

"Wanted, two young men, able-bodied, willing to work, clean in body and mind, who want to learn bee-keeping and are willing to exchange faithful services for instruction from a man with almost 40 years of extensive experience in bee-keeping : board and some financial remuneration. Have 12 apiaries. — R. F. Holtermann, Brantford, Ontario, Canada."—W. B. WALLACE.

Aluminum Extractor.

[10,407] I have been most interested in the letters about an aluminium extractor, and I hope your much-esteemed *B.B.J.* may be the means of opening the eyes of users and manufacturers alike to the great possibilities and advantages of this valuable and cheap metal. Letter 10400, by a man of practical experience, and his quotation from Professor Richards, is an unanswerable argument for aluminium. Some of the folks must be speculating on getting the recently-closed tin mines cheap, to judge by their remarks deprecating aluminium.

No one mentioned aluminium honey combs, so much to the fore in the bee Press during the last couple of years! This is the answer to the action of formic acid. Users do not complain that the honey stored reduced their combs to white powder. It is used in cooking utensils with great advantage, and in fruit preserving pans, where there is surely much more acid than in honey.

Tin is in some degree poisonous, yet honey is stored in it with perfect safety. But since reading North Cheshire Notes (p. 70) I suggest tin may have been the cause of the "Ill-Effects of Eating Honey." I may say I never miss a page of the *B.B.J.*- not even the advertisements, where I notice Italian queens now being offered reasonably. Aluminium can be soldered if a suitable solder is used, but not by common solders, but it requires more skill than tin, but it can be readily soldered to copper or brass. Extractor taps, etc., could be cast with a flange and rivoted on to prevent leakage. Every bit of the extractor could be aluminium—even the gear could be of aluminium alloy. So great an authority as Mr. Abbot introduced aluminium spacers, I believe, and they could be made W.B.C. pattern, and would last as long as the bee-keeper; so that I suggest it be used everywhere possible in bee goods. They cannot raise the prices much more, I think.

Aluminium is strong, light, rustless, very pleasant to use, and, being one of the most abundant elements in Nature, ought to come cheap, and in any case would *last* and so be cheaper than rusting tin. Queen cups, tool handles, etc., would last practically for ever.—R. DOUPE (Rev.).

An Apology to Dickens.

[10,408] As an Englishman who naturally likes plain speaking, and who by his nationality makes up his mind as to what he wants and then tries by all honourable means to get it, I am appealing to you for assistance. I wish to make a public apology for a misstatement I have repeatedly made about my favourite author, Charles Dickens. I have asserted many times that although nearly all his characters were drawn from life, one was an utter impossibility, and was rather too far-fetched even for a work of fiction.

I take it all back. Pott existed, and the great master sketched him from life. Nay, he still exists, for an article recently published in a contemporary could only have been inspired by the pen of the redoubtable Pott. The elegant ease with which everyone who does not read the —— is condemned as not only ignorant, but as—to put it mildly—seeking to injure every bee-keeper he comes across, is worthy of the *Eatanswill Gazette*, and I am only sorry that I am not acquainted with a Slurk who could fittingly reply to the article in question.

Those who would like to compare the styles are referred to the Pickwick Papers.—G. J. F., February 20, 1921.

Brown Sugar for Bee Food.

[9921] Kindly insert the following under queries and replies, together with your valued reply, *re* letter 9919.

Your decided statement in reply to query (2) that "brown cane sugar is totally unsuited for bee food" is rather

disconcerting in view of the statements of other undoubted experts. To mention only one of them, Mr. Simmins has for years strongly recommended dry sugar feeding, and specified brown cane Porto Rico or Barbadoes. In his book, "A Modern Bee Farm," he advocates a dummy feeder of dry sugar on one side of the nucleus and a frame syrup feeder on the other, for plumping stocks in spring. I have myself adopted this method with great success. I shall be glad to have your views on this system.

Your expert's opinion does not seem to affect the case, as it is a question of suitability, not purity, that is involved. We add Yadil, Bacterol, Napthol Beta, etc., to syrup, thereby rendering it impure, but that does not make it less suitable as a bee food than if given unmedicated.—Yours faithfully, VERNON R. DEAN.

REPLY.—We abide by our statement. In our opinion brown sugar is not suitable for bee food *at all*. It may not do so much harm in spring, when the bees have plenty of opportunity for taking cleansing flights. A number of cases where brown sugar has been used for winter food have come under our notice this winter, in every instance with disastrous results. We think if "A Modern Bee Farm" is carefully read it will be found that Mr. Simmins does not recommend brown sugar for winter food. On page 367 he says: "No dark moist sugars are suitable as a winter food in cold latitudes." So far as we are concerned, we would not use other than white sugar for feeding bees *at any time*, unless it was absolutely unavoidable. In "Gleanings in Bee Culture" for November, 1920, the editor says, in speaking of feeding sugar to bees: "When we say 'sugar stores' let it be understood that no brown sugars will answer. Some of us learned to our sorrow last winter when we could not get granulated sugar that brown sugar stores contain too much gum. Better by far have an inferior honey than any brown sugar or molasses."

We do not see that your last paragraph applies. It is the impurities that make brown sugar unsuitable. To compare the impurities of brown sugar with syrup from pure sugar and medicated, is like comparing a cup of tea with a cup of ditch water, neither are pure water, but ——.

Uniting Two Varieties of Bees.

[9922] I hope to increase stock by making three hives of two. I have two hives of bees adjacent, one Blacks and the other Italian-Dutch; can these be worked together for the purpose? I suppose they might, but, again, it might encourage bees getting a bit mixed. An answer in *B.B.J.* columns would oblige.—GLYNN GRYLL.

REPLY.—Bees and combs from the two stocks may be used for the purpose. It will do no harm to mix the two varieties, as it will be the queen that eventually heads the new colony that will decide what race of bees occupies the hive. Why not adopt the method given on page 94 of the "British Bee-keepers' Guide Book"?

Notices to Correspondents

We have a number of queries as to where seed of the new annual sweet clover may be obtained. We do not think it can be obtained in England. We are making inquiries, and will make a further announcement as soon as we hear anything.

"P." (York).—*Dealing with colony wintered in two brood boxes.*—On a warm day lift off the top box. Take out from the bottom box any empty combs, or any that are old or need renewing. Put all the combs containing brood in the bottom box, keeping them all together, and give as many of the others containing stores as the bees will cover, closing up with a division board. Brush the bees off all the combs in the top box, and take them away, leaving the bees in the bottom box. Be careful you do not lose the queen during the operation.

"T. D., JUN." (Hants.).—*Varnishing section racks, etc.*—It is not necessary to do this.

Transferring.—If the weather is good, the third week in March is not too early in your county to transfer bees into a clean hive.

Getting rid of wood lice.—The bees will deal with these when they wish to occupy the comb. Transfer the combs and bees into a clean hive, and sprinkle a little powdered naphthaline in the infested comb.

MRS. S. G. (Shrewsbury).—*Spring cleaning.*—This may be done at the end of this month or early in April.

Swarms clustering in detachments.—This usually happens with second swarms, when several virgin queens may come out with the bees, and a small cluster will collect with each queen. It does sometimes occur with a first swarm, with only one queen, but in that case the bees will eventually all collect into the one cluster that the queen has joined. We cannot say why one stock of bees are carrying in pollen, and the others are quiet. The latter may not be so strong, or there may be something wrong that only an examination will reveal.

"A. E. C." (Essex).—*Cleaning tin dividers.*—The propolis may be removed with methylated spirit or Fels Naphtha soap.

"C. C." (Hounslow).—*Transferring from skep.*—Allow the skep to stay over the frames until the bottom combs contain brood, then get the queen on them, and place a queen excluder over the frames and under the skep. If the queen cannot be found on the bottom combs, she will be in the skep, which will have to be "driven" until she is secured and placed below. Three weeks later the skep may be cleared of bees and taken away, as all the worker brood will have emerged from the cells by that time. Place the other skep over the standard frames, fitted with foundation, as soon as it is almost full of bees, which may be some time next month or early in May, and treat as above.

Suspected Disease.

"W. P." (Hunts.).—Both lots of bees had Acarine disease.

Special Prepaid Advertisements.

One Penny per Word.

PRIVATE ADVERTISEMENTS.

FOR SALE, 250 split and grooved Sections and 5 dozen slotted Metal Separators, 33s. Cash with order.—HILL, 50, Westgate, Driffield, Yorks. n.33

RESEARCH WORK.—Will bee-keepers whose bees show signs of "I.O.W." disease this spring kindly forward samples of living "crawlers" for investigation?—DR. SMITH, 5, West Castle Road, Edinburgh. n.34

30 STRONG, healthy Italian Stocks, £5 each; 25 English Blacks, £4 each; April delivery.—YOUNG, 42, James Street, Cambridge. r.n.35

PURE LIGHT CAMBRIDGE HONEY, extra fine quality, 13-lb. tins, 17s. 6d.; 28-lb. tins, 36s. 6d.; carriage paid; sample 4d.—YOUNG, 42, James Street, Cambridge. r.n.36

COMPLETE MODERN APIARY FOR SALE.—30 strong Stocks, 37 splendid Hives, and a large quantity of Sundry Appliances in splendid condition, property of gentleman giving up bees through ill-health. Prices moderate; delivery early April. Lists free. Order now.—PEARSON & GALE, Marlborough. n.37

30 STOCKS of healthy Bees for immediate delivery, also large quantity Hives and Appliances, property of gentleman giving up bees through ill-health. Lists free. Order now.—PEARSON & GALE, Marlborough. n.38

WANTED, healthy Swarms, May-June next; boxes provided.—Send full particulars and price, Box 13, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. r.n.39

SEVERAL healthy Stocks for Sale, on 7 frames, delivery early April. KINGSCOTT, Muxelwell Farm, Pembury, Kent. r.n.46

BEES, ITALIAN HYBRID.—Two healthy Stocks in W.B.C. hives, double brood chambers of 20 combs and shallow boxes, for Sale, £6 10s. each. Quantity of Shallow Combs and other requisites.—T. WHARTON, 5, Moor Lane, Witton, Birmingham. n.41

HAVING wintered well can offer two or three Stocks pure Italian or Hybrid, 1920 Queens; can recommend them to anyone; £4 per stock 10 frames; buyer pays carriage.—BALE, 1, Hodford Road, Golders Green, N.W. n.42

WANTED, Geared Honey Extractor to take two standard frames, also medium sized Honey Ripener. State condition, maker, and price.—BRIGGS, Biddestone, Chippenham, Wilts. n.43

LARGE EXTRACTOR, geared, £4; three Hives, 27 in. x 18 in., ¾-in. boards, lifts, supers, sundries.—WILTSHIRE, Maindy School, Cardiff. n.56

WHITE LINCOLNSHIRE HONEY, granulated, 4 cwt., in 4 stone and 1 stone tins, 1s. 9d. per lb., or offers for lot.—WHITE, Penny Hill, Holbeach, Lincs. n.31

ITALIAN HYBRIDS.—A few strong 8- to 10-frame Stocks, 1920 Queens, no disease, £4 10s., carriage paid; early May delivery. HOWLETT, 138, Seaforth Avenue, New Malden. n.46

FOR SALE, four W.B.C. Hives complete, one Special Hive for section working, a Geared Extractor practically new, various fitted Section Racks, two Travelling Boxes, Drawn-out Comb, the whole in excellent condition; £15 the lot. Can be seen by appointment at Merstham, Surrey.—Box 14, B.B.J. Office, 23, Bedford Street, W.C.2. n.47

BEES.—Wanted, strong, healthy Stock, April; no extra; cash.—BUNNEY, Cranbourne, Prescot, Stourbridge. n.45

SURPLUS BEE APPLIANCES.—Several Hives, some new, Lee's Holborn hives, nearly every appliance, moderate prices; few Stocks, 8 frames, £4 10s.; owner obliged reduce stock.—HEWETT, 5, Owens Road, Queensland, Winchester. r.n.44

BEES.—Strong, vigorous Stock, 8 frames (Queen laying), with stores and hive, £4 10s.—"Locksley," Willingdon, Sussex. n.48

FOR SALE, Hive, Extractor, Ripener, Veils, etc., and all Accessories, £4.—AUDEN, "Hillington," Jersey Road, Isleworth. n.49

SEVERAL STOCKS OF BEES on six standard frames, 1920 Queens, good working strain, mid April delivery, 60s., carriage paid.—WM. CHANNELL, Grove Apiary, Histon, Cambs. n.50

WILLOW-HERB, continuous bloom, roots 2s. 6d. dozen; Wild Hyacinths (Blue Bells), 2s. 100; carriage paid.—BRUMPTON, Thorpe Common, Rotherham. r.m.139

HONEY, excellent Wiltshire blend, 7 lbs., 13s.; 14 lbs., 25s.; 28 lbs., 48s. 6d., including tins.—PINDER, 2, Endless Street, Salisbury. r.m.129

BEE-KEEPING.—Correspondence Course. Practical and theoretical study. Stamp.—MISS PALING, Golden Square, Henfield, Sussex. r.m.89

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

200 LBS. of good Honey for Sale. What offers?—MANAGER, Rudgwick Fruit Farm, Rudgwick, Sussex. n.18

FOUR Fertile 1920 Queens, immediate delivery, Italian or Hybrid, 10s. 6d. each.—Box 12, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. r.n.32

WILLOW HERB, excellent honey yielder, twelve 2s. 6d.—BOWEN, Apiaries, Cheltenham. r.n.11

WANTED, Honey Cans and Jars, exchange for fine Suffolk Honey, 1s. 9d. per lb.—HOGAN, Boxford, Suffolk. n.16

BUSINESS ADVERTISEMENTS.

1½d. per word.

BEES AND QUEENS FOR 1921.—Send for our Catalogue, free on application.—PEARSON & GALE, Marlborough. r.n.174

UNTESTED LAYING QUEENS, 6s. at purchaser's risk, 10s. at my risk, after June 15. If earlier add 4s. English paper money accepted.—ALLEN LATHAM, Norwichtown, Conn., U.S.A. n.51

ITALIAN QUEENS, very hardy, home bred, 10s. 6d. each; Virgin Queens, 4s. 6d. each; 3-frame Nuclei, 55s., other varieties 42s. each. Swarms during season.—S. CRAWFORD, Apiaries, Castlederg, Co. Tyrone. n.52

VACANCY for Pupil on the biggest Bee Farm in Surrey.—THE HEATHERLANDS BEE FARM, Thursley, Godalming. r.m.136

HONEY FOR BEE-FEEDING.—Finest West Indian, case of one 56-lb. tin, 49s. 9d.; case of four 7-lb. tins, 29s. 6d.; Australian, case of one 60-lb. tin, 46s. 6d.; carriage paid 100 miles.—LONDON TRADING AGENCY, 32, St. Mary Axe, London, E.C.3. n.62

BREEDER QUEENS: THE FOUNDATION OF SUPREMACY.—A limited number of Adminson's renowned *Breeder Queens* (pure Carniolans, Italians and Dutch, guaranteed about one year old) available in rotation during June and July for commercial breeders and research students; price per Queen with one comb nucleus of her progeny, £2 10s., carriage paid. A unique speciality and value.—ADMINSON, LTD., Benson, Oxon. r.n.53

2,000 SURPLUS STANDARD BROOD FRAMES, new, in the flat, saw cut, 17-in. top bar, 11-16th in. x ⅜ in. top, 3s. dozen; 11-16th in. x ½ in. top, 3s. 3d. dozen; ends reduced to take ordinary ⅜ in. W.B.C. metal ends; carriage 9d. dozen.—C. COCKLE, 11, Townsend Road, Southall, Middlesex. n.61

ITALIAN AND ITALIAN HYBRID.—Queens, Stocks, Nuclei. List free.—TICKELL, Westbourne, Cheltenham. n.55

BOOK NOW!—I still have a few Stocks for disposal. Pure Italians on 8 frames, £5. I make a speciality of 3-frame Nuclei, and can strongly recommend them as the very best value, £2 10s. Disease free. Cash with order.—A. WILKINSON, Farnham, Saxmundham, Suffolk. r.n.57

3-FRAME NUCLEI.—Orders booked for delivery early June, free from disease, resistant, industrious Italian Hybrids; Queens reared naturally in strong colonies; price £2 7s. 6d., carriage paid; box 5s. extra, refunded on return.—GRISDALE, "Calgary," Hampton, Middlesex. n.58

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TAFFS WELL, CARDIFF.

Dear Sir, Please forward me another packet of your "I.O.W." Cure. I cured the stocks treated last September, and have no hesitation in saying that yours is a *real* cure.

October, 1920.

BRAMFIELD, SUFFOLK.

Dear Sir,—Please let me have a packet of your Cure. The diseased bees treated with it last year are quite healthy and going strong.—Yours,

T. B.

February, 1921.

Hundreds like above from people who followed instructions to the letter.

Guaranteed not to make bees' breaths smell. Simply dust your floorboards and in late season your bees; floorboards alone as a preventive. 3/6 per packet, post free, from

CLARKE, — — BLYTHBURGH, — —— HALESWORTH.

Commercial Bee-Keepers and Legislation.

One correspondent writes that he is quite content to be guided by the "Commercial bee-keepers," who are against legislation, as he thinks they should know what is best for bee-keeping generally. These are just the people we would *not* follow as guides, for in many instances their opposition is from purely selfish motives. No Bill dealing with bee diseases would be complete if it did not give power to prohibit the moving of bees in and from disease-infected districts. We admit it would be somewhat hard on a dealer in bees and queens to have his district declared "an infected area," and be prohibited from sending them out of the district without a permit. It might even be that their own apiary was healthy; but would anyone who knew anything about bee-keeping *buy bees from an apiary if they were aware that there was infectious disease of any kind at another apiary only half a mile away?* A Bill that made no provision to prohibit the moving of diseased bees, or bees from a disease-infested area, would be useless.

In such a case could a dealer be *certain* that the stocks or swarms he sold had not been robbing from such an infected apiary, and, though there might be no visible symptoms of disease, the infection was not there, ready to break out at the first favourable opportunity? Also it is more than likely many persons to whom the bees were sold would be new beginners, who would be ignorant of what steps to take to try and keep the bees healthy, or of the earliest symptoms of disease; and it is not out of the bounds of probability that the infected stocks might be dumped down only a short distance from one's own apiary.

Some of these "Commercial" bee-keepers rear but a very small percentage of the bees they sell, but buy them from outside sources, and in some cases the dealer buys and re-sells stocks without ever seeing them; so long as they can be bought at a cheap price and sold at a good profit without let or hindrance their *commercialism* is satisfied. Whether the bees are healthy or diseased does not trouble them; but, naturally, they do not by any means desire legislation that will check their activities! The best of the commercial bee-keepers are in *favour* of legislation, and will not oppose every Bill "in its present form" because they cannot altogether agree with the provisions it contains. They know quite well that in the long run it would be a benefit to the conscientious dealer. For ourselves, we absolutely decline to be led by the "commercialism" of those dealers who are against legislation.

A Dorset Yarn.

There are in flower now the large marsh buttercup, the largest of all the buttercups, a wonderfully showy flower and of great service to bees in the marsh meadows of Dorset. These are most abundant, and Muller states: "The honey is secreted by two shallow depressions on the sides of each carpel; it is so abundant that the drops often flow together into one large one, filling up the cleft between the carpels." He also mentions that "*Apis mellifica* visit it in hundreds, collecting pollen and honey." If one watches bees they can be seen sucking up the nectar as they rest on each flower, their pollen baskets also laden with pollen; they seem to moisten it as it is stacked on to the carriers. This pollen, freshly moistened with nectar from these large yellow flowers, must be a feast to the young larvæ in the cells. The old pollen of last autumn's harvesting must be very hard, and want a lot of honey to moisten and liquefy it into suitable food for the young grubs. What a harvest of bee food there must be where there are acres of these fine bee flowers. Where the river Frome overflows the meadows all the water hollows are yellow just now.

We have now in so many gardens the white arabis, just one carpet of white flowers; these are covered with bees when the weather is fair. Muller says, "These flowers are visited by sucking insects." Squire Tomlinson saw the county re-stocking bees taking in white pollen on March 15, but the bees at the Violet Farm seem to be always bringing in shades of yellow. Such a lot of them carrying pollen; still, they must be taking in a lot of nectar, or they would not be repairing and lengthening cells as they are on the centre combs.

Among fruit trees there are now (March 20) some plums in bloom, a few blossoms of Jargonelle pears expanding, a few solitary flowers of gooseberries, as well as peaches; each week they will give us more for the little foragers.

The berberris are in blossom. These are very showy; our bees do not take to them much, yet Springel states that the common species, *vulgaris*, has "two honey glands near the base of each

petal," and the hive bee visits them abundantly. This flower is very peculiar in that it has an uncommonly formed stigma, which has a sticky edge so that pollen adheres to it off the hairy covering of insect visitors, so completing fertilisation.

Those who keep bees near the pleasure grounds of the wealthy must derive much gain from the many and varied plants that are grown in them to enrich the flora and improve the beauty of the landscape, as so many of them are rich in nectar, and, with only a few exceptions, all are delightful to the taste. After being away from them so long one does not get the pleasure one had in other days in seeing so many varieties of blossom. We are bound to grow flowers and fruit that we can sell in order to pay the men and live ourselves. Still, as we move about we can see them, but cannot give the number that are visited by bees. It would be a great boon to all bee-keepers if someone who is always amongst them could give these in the JOURNAL; if bees visit a plant continuously they must get a lot of stores from it.

Seeds develop in abundance where insects visit freely. Nectar is in so many flowers, but not many have so much in them as the marsh buttercup; but this only blooms once in the season, where others carry on for a longer period, as do the wild hieraciums and charlock. The mignonette is visited by bees as long as it is in bloom in summer, but it is from the wild flora that is so abundant that bees get such a wealth of stores.—J. J. KETTLE.

Jottings from Huntingdonshire

March winds are doing their best to relieve the trees of their surplus leaf and flower buds. The unopened elm blossoms are scattered with profusion over the sward, now clothed in its richest green. The dandelions are telling us we need not always look up to see stars, and the bloom of the box-trees fills the air with fragrance. The bees are all astir; the winds are not cold enough to keep them in, and pollen and honey are being brought from many sources. The blackthorn and the pear blossoms are now visited with the honey flies and the wealth of bloom is wonderful, and there are yet two days to spring.

We have had visitors in the village from Canada; they were interested in bees. Engaged in fruit farming in Ontario, they, like our friend Kettle, keep bees for fruit-tree fertilisation. I was interested to hear that, although they wintered bees on 30 lbs. of honey or so, the average consumption was 14 lbs. per stock per winter. This shows that a cold, frosty winter is best for man and bees alike. Very few stocks, I am told, succumb during the long winter season, yet here in this country this cannot be said. Between Oundle and Peterborough in the valley of the Nene, the river which divides North Hunts from Northamptonshire, very many stocks died during the two nights' frost we had in November last. This, however, was in part due to brood. Every hive I have seen which became lifeless on those fateful nights had brood on several combs, and doubtless in the bees' vain endeavour to cover the brood—unwilling to forsake their unborn progeny—they had to break their cluster and froze to death. Poor things!

In that particular valley 31 deg. of frost was registered, which was more than we experience, as a rule, in this part of our Island. The great lesson from this is the necessity of getting hives full of bees before November arrives. For two years in succession the coldest days hereabouts have been in November. In the North of Scotland 31 deg. of frost is quite mild, I believe. When we hear of 12 below zero being registered up yonder we shiver, and yet our Scottish bee-keepers bring their bees through all right, and possibly, as in Canada, on much less store than we down South.

This winter, now almost past, has been so very like the previous one that one wonders whether April and July will be like they were in 1920. April was a deluge and July a hurricane, and both months almost disastrous from a bee-keeping point of view.

How earnestly we are hoping that this will be a bumping year for honey production! Someone has said that bee-keepers live on "hope and honey." There is much truth in the remark. He who is always despairing, or by nature a pessimist, had better leave bee-keeping alone as surely as the careless and the slovenly person. Hope and carelessness won't do. To keep bees in hives that are ramshackle and filthy, neither wet- nor draught-proof, and hope for the best, is like hoping for good fruit from an untended fruit tree. "Hope springs eternal," but hope alone won't pay the rent, nor will it fill the honey supers; yet, verily, some people seem to think that hope is all that is necessary. Fancy throwing a swarm of bees into a hive which has been accumulating dust and harbouring insects galore for years! Yet I have seen this done, and on my expressing surprise was told that bees will clean out their own homes better than anyone else. I not infrequently pass, four miles from here, a couple of hives

which are the last word in filth. I often wish I had power to destroy them, but the owner won't even sell them for firewood, the plea being, "A stray swarm might come along and take possession." Oh! that word "might." It is, in this case, another expression of hope. If by chance some bees did get there, what a home for insects which love cleanliness not less than the must punctilious of us! Legislation would set the owners of such rubbish thinking that a bonfire might save trouble. There's a world of difference between a keeper of bees and a lover of bees in these days, but, to my mind, legislation would make bee-keeper and bee lover synonymous terms.—E. F. HEMMING, Steeple Gidding, March 19, 1921.

Cotswold Notes.

SUNDRY THOUGHTS.

One pleasure of out-apiaries is that they enable one to enjoy Nature, and the lighter side of country life. My haunts embrace some of the quaintest hamlets which are amongst the gems of the Cotswold Hills, where life goes slowly and easily and worries appear to be few.

Strangers to the village are so rare that all the dogs appear to bark at once and the poultry which wander about the roads dart away into the barns.

Curious eyes appear at the tiny cottage windows, which latter are not half large enough, according to our present-day notions.

If guidance is wanted the country clergyman is, as a rule, courteous to the respectable stranger. At any rate, his information is reliable, which can hardly be said of the village worthy who poses to be an authority on the weather, but who has no idea of distance. It takes a good quarter of an hour to do his "Phyve minnets' walk."

I always fight shy of the country "short cut." Generally it leads off down a vile lane, and by the time you have lost your way once or twice you would have been minutes ahead by keeping to the road map.

On Saturday, March 5, the air on the hills was like champagne, though much less expensive. I spent the whole day overhauling hives at one apiary, when about three o'clock the familiar cry of hounds came over the hill.

Looking up we watched the fox slink across and up the embankment, where it was lost from view.

Very soon the whole of the pack was in full cry, "yappeting and lorriping" along, the dogs making a pretty contrast to the grey uplands.

Roaring with all his might to make himself heard above the wind, the red-faced cowman—who had left his work to watch the sport—offered information to the signalman 100 yards away that "'eve 'id 'issel' in t' cover!"

So away we went just in time to see the cavalcade of horsemen thunder down towards the thicket—a dense mass of bramble bushes and trees.

The cover was "drawn," but proved to be blank, so the hounds were whipped off for a find elsewhere, and the cowman, disappointed by the absence of a "kill" near his home, said "Ah, maister, 'ee's a sly 'un, an' not meant ter be ketched."—A. H. BOWEN, Cheltenham.

Re Winter Losses.

It is a great pleasure to most of us, especially older readers, to see that worthy contributor, "D. M. M.," taking up the pen again in the interest of bee-keeping. His latest subject, "Winter Losses," is a problem that is taking the attention of many would-be bee-keepers this winter. "Winter Losses!" What a lot of meaning in those two words, and how regular they have been to many during the last few years. The number of losses this winter within my knowledge is appalling: it would nearly reach three figures. Almost as serious as when the dread "acarine" disease was stalking through this district, taking a nibble here and a bite there. What a selection of homes for stray swarms, as many hives will be left as they are. It is noticeable how many stray swarms there seem to be after so many losses. Where they come from no one can tell. Is it nature's way of righting itself? But why so many losses? Is it the sequel to the advice given broadcast "To keep bees to supplement the sugar shortage" without a thought of feeding the bees if the season was unfavourable for honey gathering?

In many cases the poor bees are victims of procrastination. They are treated as only a side line, and "to-morrow will do" to see to them. Nothing looks more pitiful than a big stock of dead bees. The combs packed with bees in shrouds of their own making. One is inclined to think that many people are induced to keep bees with the idea that it is only to put them in at the entrance of a hive and take the honey out at the top. Many well-meaning experts who demonstrate at shows, etc., and handle bees with impunity, often mislead, and give an impression that "anyone can keep bees"; a bigger mistake is never made. *Anyone* can't keep bees. Bee-keeping is an art

to make a success of it. Also you will hear *some* remark that bees never sting *them*. That has to be taken with, not a grain, but spoonful of salt. A bee-keeper will get his share of attention from the bees if he gives the bess the amount of attention required to make him a successful honey producer, but the way the manipulations are carried out will reduce the number of stings to a minimum. The remedy to prevent so many "winter losses" is that we want *better* instead of *more* bee-keepers.—HORACE H. HALL, Upham, Hants.—March 4, 1921.

Bee-Keeping and Fruit Spraying.

Most orchardists keep bees in order to ensure the cross-fertilisation upon which so many trees depend, and it is a great pity that a certain number of the people who keep both bees and orchards contrive successfully to poison the former at the moment of their most successful activity. Yet the facts are very simple and admit of no doubt. In the spring of 1920 it was reported to the Ministry of Agriculture that the greater part of the bees in several apiaries had been wiped out because owners of neighbouring orchards had sprayed blossoming fruit trees with arsenate of lead. To give only one instance, Swanley Horticultural College in Kent lost half its stocks and the rest produced no honey. Most of this spraying with lead arsenate is done with the idea of destroying the larvæ of the Codling moth, but this is a very foolish endeavour, because the eggs are laid on the foliage of young shoots and only the hatched larvæ reach the fruit. The use of a lead spray during blossoming season may serve to stop the setting of the fruit, but it will not destroy the Codling moth. The Ministry of Agriculture advises that lead arsenate should never be sprayed on open blossom, owing not only to the danger of poisoning bees, but to the possible effect of this poison upon the open bloom. If such spraying is persisted in, it may be necessary for an Order to be issued making the use of lead arsenate illegal at certain times of the year. Just now our bees are in anything but flourishing condition. "Isle of Wight" Disease has taken a very heavy toll in British apiaries, and it is more than merely unwise to run risks with the poor remains of the country's bees. Every owner of orchards or plantations knows that the honey bees are the most effective of all insect workers, and that he must depend in no small measure upon their efforts for the reward of his own. Looking at the question from the other side, the bee-keeper deserves well of his country, because at this present moment we consume millions of pounds of honey that we do not produce, and the bee-keeper must be protected against the reckless fruit-grower who uses a poisonous spray that will certainly be of no service to his trees and is bound to be destructive to his neighbour's bees.—*The Ministry of Agriculture and Fisheries, Weekly Service.*

[We have several times in replies to correspondents pointed out the folly of spraying fruit trees when in bloom. In some of the States in U.S.A. it is illegal to do so. As the above notice points out, the practice of spraying the open blooms damages the fruit crop, and an Order making poisonous sprays illegal when the trees are in bloom would protect both the fruit-grower and the bee-keeper; but the power to make Orders dealing with infectious diseases of bees would be much more useful to the bee-keeping industry.—EDS.]

British Bee-Keepers' Association.

LECTURES AT GOLDERS HILL PARK.

A special course of six lectures on bee-keeping will be given in the British Bee-keepers' Association's apiary, London County Council Park, Golders Hill, London, N.W., on Fridays, April 22 and 29, May 6, 13, 20, and 27, at 6 o'clock each evening.

Those desiring to attend these lectures must make application at once for enrolment and particulars to—W. HERROD-HEMPSALL, Secretary, 23, Bedford Street, Strand, London, W.C.2.

A simple "chat" on bees will be given free, at 3.30 each afternoon, before the lectures.

Jottings.

Legislative Economy (*Page* 68). — Mr. Claridge furnishes food for serious thought in his admirable summary of this plea for economy which may be calculated to undermine the "efficiency of British bee-keepers" in their capacity of agricultural fertilisers, seed, and fruit producers, however "buckshee" and unrecognised. Taking this view, we may safely style this as ridiculous and false economy.

I think, with Mr. Claridge, the British Association should adopt some policy of active resistance to this continued delay, make more effort by agitation, addresses, posters, or any other effective manner of bringing before the public the handicap in

which we claim to be labouring and failing. It is refreshing to find one other supporter among those whose livelihood depends on bee-keeping. Even the opponents have made provision to ensure that the benefit of supervision and destruction shall not be unduly harsh. What is our policy of action? What are we willing to give and pay for the principles in which we believe, but seldom strike a blow for?

Can we not also refuse to go to the poll for the representative who will not promise "direct action" for the Bee-keepers' Bill.—A. H. HAMSHAR.

The Production of Heather Honey.

It may be of interest to many of your readers to know how heather honey was got and how put on the market before the days of bar frames and modern appliances. My own recollections go back to 1869, and then only because of one incident. Judging by the amount of honey we small fry got to eat, it was one of the kind of seasons we are always hoping will come our way, and which does come to a moderate extent occasionally. That had been a year above all years, so far as I can remember, for one of the stocks which was housed in a mammoth straw skep kicked the beam at 112 lb., and ever after that year was spoken of as "the year of the 100 lb." In those days there were no bar frames, and the best hive for the heather was a box 12 in. by 9 in., which held six combs. There being no guide comb available, sometimes they were not over straight, but a little wax melted and run along the centre of the top bar kept them on the right road. About half way down the hive two sticks were passed through, the only supports the combs had.

The bees were generally wintered in straw skeps, and when they swarmed the top swarm was put into one of the boxes and allowed to build up for the heather. In due course it was supered with a box 4 in. deep, and if the hive was very far advanced a 3 in. eke was put below.

The time for going to the heather was the first Saturday in August, and for two or three nights before the bee-keepers were hard at work helping each other to get ready. A cheese cloth was put on the flight board, and the hive was placed on it, supers made fast to the body box, the top made secure, and they were ready for tying up. When loading they were inverted, and put on the bee waggon bottom up. I asked the reason for that, and was told if a hive broke down, or any honey ran out, it would not do so much damage as running down over the combs and drowning a lot of bees. Very few accidents happened, and the proceedings generally ended with the bee-keepers having a jolly time of it at their annual reunion. I never had a share in those festivities. I was sent once to get the hives home from the moors. I packed them up against time, as complete blindness was coming on, and bees and I were brought home. That was my first adventure in bee manipulations.

After the bees had settled a little when brought home the supers were taken off, and often there was a fair quantity of virgin comb honey, which even in those days sold easily for 1s. 6d. per lb. The bees were then driven from the boxes and united to the straw skeps for wintering. The brood combs with honey were taken out of the boxes, the combs broken up, and the honey pressed out, but not with a honey press, but through a cheese cloth, and it was ready for use, although sometimes it tasted badly of pollen, just according to the care the bee-keeper took with the pressing and running. It was also sold, and the price usually ranged from 1s. to 1s. 3d. per lb. A bee-keeper with six to eight hives at the moors generally did fairly well. Now when we run any heather honey we put it through the honey press, and even out of brood combs a very palatable honey can be got with no trace of pollen or refuse of any kind, but I would like to hear what our Junior Editor has to say about that sample he had from me. [It was a very nice sample indeed.—EDS.]

I now propose to give a short account of how bees should be got ready for the moors. Very early in June make as many three- to four-frame nuclei as you wish to take stocks to the moors. Give each a ripe queen cell, or a virgin. If you cannot make them up until the latter end of June give them a young fertile queen; put them into an eight-frame heather hive, and by mid-July see that you have a good lot of brood in each stock, then put on the top of each hive your queen excluder, and as many combs of emerging brood as you can get up to six. Destroy any queen cells that may be formed. If there is any honey coming in, the bees will store it above as the brood emerges from the cells, and you have some fine combs for winter feeding when the bees come back from the moors.

About the first week in August remove the top storey of standard combs, and you have your hives full up with young bees who will give a good account of themselves if they get suitable weather, and without the worry and risk of fighting as happens when two hives are united.

Now see that the brood nest is packed full of brood; put the emerging brood in the centre, combs with eggs and uncapped brood to the outside, the young queen will attend to the centre combs all right, and there is no place but the supers for the heather honey. I keep on queen excluders until I get to the moors; it keeps the bees from crowding up in the sections when travelling, and if there were drawn-out combs, as there should be if possible, the queen might take possession. As soon as they arrive at their destination give them a good spray at the flight hole before you open it, and if you can meet them with it as they come out it makes them settle down quicker, and stops a lot of fighting. As soon as they are quiet open out each hive, remove the excluder, put on the sections, *wrap up carefully, you cannot keep them too warm*, and in about three hours from their arrival you will find them hard at work.

It was my intention to say something about the heather locations that are available in southern and western Perthshire where I take my bees, also the nature of the subsoil in some of them, and also in other parts that I am acquainted with, and the effect it has on the quality and flavour of the honey; but that must wait until another time.—J. C. A., Grangemouth.

Progress of the Bishop's Stortford and District Bee-Keepers' Association.

That this Association is now firmly re-established was shown at the annual general meeting, which was held at the Institute, Water Lane, on Tuesday evening, January 25. The annual report, presented by Mr. E. P. Hussey, hon. secretary, mentioned that the Association was re-formed at the end of September, 1919, and the last three months of that year were included in their first complete period, terminating on December 31 last, making the whole period practically fifteen months. Prior to the opening of the actual working season, those extra three months were a very useful addition to the time at the Committee's disposal for making the necessary arrangements, and it was especially useful in enabling them to introduce a scheme for the supply of appliances at the commencement of the season which would otherwise have been scarcely possible until much later, when their utility would have been considerably lessened. The report stated that from the time of the Association's inception, when the names of sixteen supporters were registered, the number had gradually increased, and at the close of the year reached the satisfactory total of 62. Details were then given of the operations of the Association during the past year. The work of the Association in the current year was also foreshadowed. The Hon. Secretary added that during the season he made upwards of 200 examinations of members' stocks, and a considerable amount of practical help and advice was given. As to the financial aspect, members could also feel much satisfaction. He tendered cordial thanks to the Hon. Treasurer, Committee and members generally for their support. The Hon. Treasurer (Dr. Young) presented the balance-sheet, which showed that the income for the year came to £64, and that there was a balance of £3 in hand. On the proposal of Mr. Fowler, seconded by Mr. H. T. Cox, the report and balance-sheet were unanimously adopted, and both speakers expressed the hope that the increased interest which had been shown locally in bee-keeping would be maintained. Both the Hon. Secretary and Hon. Treasurer were re-elected with applause and thanks for their past services; and the Chairman paid a special tribute to Mr. Hussey's work for the Association. On the proposal of Mr. Cox, Mr. H. G. N. Wendover was unanimously appointed assistant hon. secretary; and the retiring members of the Committee were re-elected, with several additions representative of other parts of the district. A vote of thanks was passed to the Hon. Secretary, Hon. Treasurer and Committee, and to Mrs. A. S. Barrett for her offer of an ideal spot for an apiary in the grounds of Chantry Villa, Bishop's Stortford. It was resolved that a representation be made to the Ministry of Agriculture and the County Agricultural Committee in favour of the appointment of an expert to assist bee-keepers in any difficulties which may arise. A social hour followed the transaction of the business, and interesting papers were read by Mr. C. Mellows on the subject, "Notes on Wild Bees," and Mr. A. Petchey dealt with "Bees and Flowers."

Flintshire Notes.

In 1919 the dread scourge decimated every gauzy-winged denizen of the apiary and truly pitiful it was to study the stately, laboured movements of the last survivor—the queen mother—as she took her morning walk on my breakfast table, the sole representative of the lost race.

In June of last year I purchased a stray swarm on ten combs in a cottage hive.

They were a promising, vigorous lot, with a suspicion of Italian in them. During the whole of June I left them to their own devices while away in the bonnie North Country—"Doun by the Tummel an' banks of the Garry."

On July 5th out came a great swarm which established itself about 10 feet up in a great ash, and were only hived by dint of transfixing a skep with a long pole and plunging it into the squirming mass. They were given a comb of brood and stores to go on with.

Meanwhile, the stock showed signs of great agitation, and on opening one very warm day the shrill piping of a young queen was distinctly audible. They would be out soon, thought I: but I had an hour only before other duties would call me away. So off came the quilt and over the whole was sprayed a warm mixture of sugar, honey, and water, chiefly the latter. Then down again went the quilt. Result: In five minutes the air was alive with their merry hum, and ere the calls of duty hurried me away they were safely ensconced in a new clean home with another of the stock combs to boot. The parent stock seemed to lose heart, so hearing that my friend Mr. Alun Jones was expecting four Penna queens I bargained for one to give to this listless colony.

I broke every law of introduction save that they were again fed with the delicious mixture named above. Result: In three weeks out came the first pure Italian to my intense delight and satisfaction. I then purchased a four-frame nucleus of Mr. Alun Jones' "Britalians" (British queen-Italian drone) and segregated these with the Penna-headed lot half a mile away—nearer the heather clad slopes of Moel Vammau.

A little gentle and judicious feeding till early September and then, lo, there dawned the first glorious day of that incomparable three weeks! Result—no more feeding and both stocks went into winter-quarters with well-stored larders. Needless to say, I took no surplus, but now have the nuclei of two apiaries—one Italiano-British and the other practically pure British.

What proportion of queens from either will mate with drones from the other? They are both fairly isolated, so that results should be interesting.

And now the great light-giver spins long shadows on the grassy slopes, weaves golden filigree amongst the heather and bracken on the distant hills, which passes imperceptibly into ethereal purple far away in the tops of the firs beyond, forming Nature's own vignette to the glorious sheen of emerald on the meadows, that ere many weeks are o'er us we trust will be alive with the merry hum of myriad insect-argosies culling the delicious sweet from the many-hued blossoms of the lilies of the field. W. A. Rees Jones (Rev.).

Mold, *Septuagesima*, 1921.

[What a beautiful pen-picture is the last paragraph. A whole landscape condensed in a few lines. Rev. E. F. Hemming will have to look to his laurels. —Eds.]

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Training of Young Bee-Keepers.

[10409] The article by Mr. Flashman (10,375) encourages me to dare to send a few comments on the subjects of juvenile bee-keepers. As a Scoutmaster of some years' service and a bee-keeper in embryo, I am somewhat interested from the Boy Scout point of view.

The Chief Scout being a bee-keeper, am sure the assistance of the B.B.K.A. would be appreciated by the Boy Scout Association. I sincerely hope the B.B.K.A. and the B.S.A. may correspond on this matter to the mutual advantage of the youngsters and the craft.

The syllabus of the Scout's bee-farmer's badge is, as Mr. Flashman says, valueless, and in London a committee at present dealing with Scout badges, hopes, with the assistance of the Kent B.K.A., to arrange a satisfactory test for this badge for the Scouts in London area.

Last season I had the pleasure of examining a lad of 14 years for his bee badge, and his manipulation and knowledge were greatly in excess of the standard required for the B.B.K.A. preliminary exam.

If the B.B.K.A. would recognise the Scout bee badge, granted by qualified examiners as the equivalent of the preliminary certificate, it would make this badge worth gaining, but the test should be standardised, and include ownership or part ownership of a stock, and not vary according to age of the candidate. With proficiency the desire for the intermediate and expert certificates would follow auto-

matically, though reduction in fees for these would be desirable.

The suggestion of special classes for Scouts with qualified instructors is almost too much to hope for, but a troop apiary run by perhaps six Scouts under an instructor could be extremely useful.

Would it be presumptuous to suggest that the gift of a spare swarm, or nucleus, to a Scout troop, through Headquarters, and ensuring proper conditions, may be a way of inaugurating such a scheme, and encouraging the Scout principle "that troop funds shall be earned." A preliminary warning of such a gift would be advisable to ensure provision of hive and appliances and books of instruction (including the *B.B.J.* each week).

Perhaps the Editor may persuade the Rev. Hemming to let us have the benefit of a few more of his chats with Apis.

May the season of 1921 be as good as 1920 for experience, while a vast improvement in the amount of surplus is hoped for by— A SCOUTMASTER.

[10410] I take your JOURNAL regularly but this is the first time I have written to it.

I think Mr. Flashman's suggestion *re* the education of boy and girl bee-keepers is most sensible, and wish classes could be started in this district. I have been duly bewildered by half-a-dozen different text-books, but am beginning to find my bee-legs. The lecture Mr. W. Herrod-Hempsall gave at Portsmouth, June 5, helped me considerably towards that end.

I have my bees all to myself, the rest of the family keeping at a very respectful distance when any manipulations are going on.

When I hived my first swarm an experienced bee-keeper was helping, the queen took an unaccountable dislike to the hive, though the paint was over a month old, and there was a "bait" in the shape of a feeder full of syrup over the feedhole. She ran in quite nicely at first, but soon came out again and returned to the skep.

After she had done this several times we sloped the mouth of the skep over the entrance and felt them. A quarter of an hour afterwards they had all entered and settled down in their new home.

The man I got them from had not been in the habit of having cone escapes in his apiary, and—would you believe it?—the next morning every other bee that came out went and examined the one in the roof.

Though I have only kept them a short time I am very fond of them, and often wonder if they know me.

I am fourteen, and I should like to correspond with another boy of my own age who makes bee-keeping his hobby. I keep a journal of my own dealing entirely with the doings of my bees.—TOM DURRANT.

A Note from Notts.

[10411] You are asking bee-keepers for anything of interest, but I do not see anything from this district; I am about one mile south of the Trent. It is not one of the best districts, as the honey flow is finished with the limes. We have no heather here, but we have a nice lot of clover from which we get most of the honey.

I lost my six stocks four years ago with the "Isle of Wight" disease, but started again with one six-comb lot last April. I did fairly well, considering it was such a bad season. I took forty-seven pounds of honey at end of June, then the weather broke up, and it was rain, rain, rain. The bees started building queen cells, so I decided to divide them, and made up five stocks which all have wintered, and I see to-day, February 21, are carrying pollen in.

I have retained the old queen to rear my queens from this year. I am inclined to think we have been rearing our queens from eggs from queens that are too young. In poultry-keeping we say *do not set pullet eggs*, as we know the chicks are smaller and not so strong. If this is so with poultry why not with bees? Perhaps more of our bee friends will say what they think of this.—A. PRIDE, The Nurseries, Radcliffe-on-Trent, Notts.

[Our correspondent is quite right. Strong, vigorous queens are more likely to be obtained if they are raised from the eggs of a mature queen rather than from a young one.—EDS.]

Appreciation from South Africa.

[10412] I am always eager to receive your BRITISH BEE JOURNAL, containing the most interesting weekly articles from Mr. J. J. Kettle and the Rev. Mr. Hemming, which I find pleasant reading, and would very much miss these valuable contributions if discontinued.

I may say that I am not only a lover of bees, with an apiary of over thirty colonies in far-away South Africa, but am also keenly interested in horticulture, having an orchard of two hundred fruit trees of almost every variety of fruit, in which my apiary is situated at Devonshire Villa.

Hence Mr. Kettle's letters are doubly interesting when he includes the subject of horticulture, notwithstanding the fact that I have kept bees for upwards of forty years.

Every encouragement should be given to the writer of "Dorset Yarns," who is a gentleman of practical experience, and much can be learned from the knowledge he imparts.

The Rev. Mr. Hemming also does not confine himself to the subject of bees only, and his style of writing makes his letters most interesting, and no doubt gives pleasure to the great majority of your readers, the same as it does to my wife, my family, and myself.

If space is available I shall esteem it a favour if you will insert this.—D CAIRNCROSS.

Early Drones.

[10413] On looking round our out-apiaries to-day, Feb. 20 (myself and bee-keeping friend, Mr. G. Moulard), we were surprised to see drones on the wing, and suspecting queenlessness, we thought we would examine a stock or two (being warm enough for drones to fly), and found brood of both sexes on seven and eight combs notably in 16 by 10 frame stocks. Having kept bees since 1901, I have never seen drones so early in normal stocks. Does this foretell an early spring? Our stocks, numbering together about 50, are exceptionally strong, and look promising. The forwardest are those that were taken to the New Forest to the heather last autumn, where they did well. They were brought back and placed on their stands and left undisturbed until to-day. They still have abundance of heather stores. The season 1920 was only fair in this district as regards surplus honey, but our combined take in a single season has reached upwards of two tons. Wishing all bee-keepers a more prosperous season in 1921.—HORACE H. HALL, Winchester Road, Upham, Hants.

Invasion of Wasps.

[10414] I wonder if any other of your readers have had a similar experience to my own.

At the latter end of August last I left home for a much-needed holiday. I left four well-stocked hives of bees, three of which had sections partly filled up, and I fully anticipated a good haul of honey on my return, but, to my dismay, I found *all* the sections quite empty, and the bees in two of the hives waging war with a swarm of wasps. I helped them all I could, killing scores with a piece of wood as they alighted on the hive front, but, alas! it was an unequal fight, and eventually the wasps vanquished all the bees, and one after the other got full possession of all four of the hives, and left me with a good big lot of bees' carcases and nothing more.

Can you, Sir, or any of your readers "put me wise" how to avoid a similar visitation again? I have diligently read your JOURNAL, and read all the technical books I could get at, and have sought expert advice, but all I can learn is how to destroy wasp nests; but my difficulty was that I was unable to find these nests. As soon as I found all my poor bees were destroyed it did not take long to poison the wasps, but while the bees lived I could not do that without also destroying them. —VANQUISHED BEE-KEEPER.

The Best Variety of Bee?

[10415] Some considerable time has elapsed since anything from me has appeared in the BRITISH BEE JOURNAL, but I have been much interested in the various opinions of bee-keepers with regard to the best variety or race of bee for general utility. My opinion is, that like most other live stock, a variety which with one person would spell failure, with another would mean great success. Therefore, my advice to any bee-keeping friend is, stick to the one which you have tried and proved best for yourself and your particular neighbourhood.

I am one of those who believe that local conditions have a great influence on the working qualities of bees. My particular neighbourhood is rather flat and low lying with a cold clay subsoil, the air generally being more or less damp, and after careful observation over a long period I have noted that the dark-coloured Italian-hybrid is the ideal bee for a district where these conditions apply, working earlier in the morning and later in the evening than the light-coloured bees; also in "catchy" weather working busily when the "yellows" will scarcely venture out of the hive. The "yellows" also seem to be of a weaker constitution, more liable to dysentery, and increasing less rapidly in the spring, the queens being later in commencing to lay.

Some people go into ecstasies over a beautifully-coloured queen. This is not surprising, for some queens are beautiful to look at; but let us remember that good queens are not raised for the show bench but for honey production.

I have found that, generally speaking, the dark mothers have produced the best workers. Of course, there have been exceptions, but these are the conclusions arrived at by careful observation. Perhaps other bee-keepers will give their experiences on this particular point.—W. T. HOWLETT, New Malden.—March 2, 1921.

Notices to Correspondents

"DIRTYWAX" (Notts).—*Cleaning cage of Gerster wax extractor.*—Scrub it with hot water and soda, or Fels Naphtha soap, using a brush with fairly stiff bristles, or try rubbing it with a cloth dipped in turpentine.

"E. H. W." (Bucks).—*Spring treatment.*—Examine the stock on a warm day, and if they need food give syrup in a slow feeder. A pound, or a pound and a-half, of sugar will serve a week. It should not be given fast enough for the bees to store it in the combs. What is needed now is *brood*, not slabs of sealed stores. By "square frames for honey" we take it you mean sections. Do not put these on until the hive is *full* of bees. The pollen of crocus is very useful and beneficial to bees.

"R. W." (Dorset).—*Dissolving Naphthol Beta.*—We do not think the coloured methylated spirit will harm the bees. Any other alcoholic spirit will dissolve N. Beta. We have used sweet nitre for the purpose.

"B. B." (Weston-super-Mare).—The Secretary of the Kent B.K.A. is Mr. G. W. Judge, Barrowdene, Shepherds Lane, Dartford.

W. B. I. (Barnet).—*Using mildewed combs.*—Syringe them with a 10 per cent. formalin solution before giving to the bees.

Honey Sample.

"F. M. C." (Hants).—The sample of honey is a heather blend. There should be no difficulty in selling it. The aroma is not good, but this is probably due to the heating, otherwise it is very good honey. Advertise it as heather blend, and you will probably find a customer.

Suspected Disease.

"W. F. H." (Henley).—Death was due to Acarine disease.

"F. W. S." (Aldbourne).—The symptoms point to "I.O.W." disease. Send us a few bees in a match box, or send some to Dr. Rennie.

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PRIVATE ADVERTISEMENTS.

CERTIFICATED EXPERT, B.B.K.A., with long experience, is prepared to undertake short Country Tour; terms moderate.—"ALPHA," B.B.J. Office, 23, Bedford Street, Strand, W.C.2. n.63

20 STOCKS healthy Bees for Sale, Italians and Hybrids, price £4 per stock, carriage paid.—DAVIDSON, Forest Road, Burton-on-Trent n.64

NINE HIVES, 10- and 11-frame, 10s. and 15s. each; Brood Combs, 1s. 6d. —DOLLEY, Penn Road, Datchet n.66

FIRST CLASS EXPERT desires to teach wounded and neurasthenic soldiers Scientific Bee-keeping; large practical experience in establishing and running apiaries.—Box 15, BRITISH BEE JOURNAL Office 23, Bedford Street, Strand, W.C.2. n.68

WHITE LINCOLNSHIRE HONEY, granulated, 4 cwt., in 4 stone and 1 stone tins, 1s. 9d. per lb., or offers for lot.—WHITE, Penny Hill, Holbeach, Lincs. n.31

FOUR MODERN HIVES and all Bee Appliances for Sale, suitable for beginner; no disease; unsuitable climate reason for selling; list on application.—MRS. BRIDGLAND, Menston-in-Wharfedale, Yorkshire. n.67

700 FOLDING CARD SECTION CASES for glass one side. What offers per hundred packed free? Sample 2d.—NELSON, Paradise Cottage, Appleby, Westmorland. n.70

BEES.—Six 10-frame Hives, native, guaranteed free from disease, strong, specially selected for honey production, a lot of sundries, including many drawn-out brood frames, £6 10s. per hive.—GAUTHERN, Heathfield, Ilkley, Yorks. n.71

FOR SALE, two Stocks of Italian Bees in cottage hives, healthy, sundry accessories, £12, or nearest offer; deposit.—Loxboro' House, Preston, Brighton n.72

STOCKS FOR SALE, One Italian, one Italian Hybrid, two B.W.C. Hives, complete, Geared Cottage Extractor, etc. Offers.—J. JAQUES, 66, Grove Road, Wanstead, E.11. n.73

ITALIAN HYBRID STOCK, W.B.C. Hive, part-drawn supers, smoker. Offers invited. Purchaser must send crate.—STAYGLE, 26, Ashburnham Road, Tonbridge. n.74

FOR SALE, three Stocks of Bees in new W.B.C. Hives, healthy, one spare Hive and Accessories. Offers.—BAKER, 20, Quintin Avenue, Merton Park, S.W.20. n.75

WANTED, healthy Swarms, May-June next; boxes provided.—Send full particulars and price, Box 13, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. r.n.39

SEVERAL healthy Stocks for Sale, on 7 frames, delivery early April.—KINGSCOTT, Muxelwell Farm, Pembury, Kent. r.n.40

SEVERAL Stocks of Bees, Italian Hybrids, £4 10s.; guaranteed strong and healthy; box 10s. extra, returnable.—REV. COOPER, 62, Park Hill, Carshalton r.n.77

EXCHANGE pair prize Yorkshire Canaries for Stock Bees.—MITCHELL, Glen Street, Greenock. n.87

ITALIAN HYBRIDS.—I can offer eight to ten fine Stocks at £4 10s. each, carriage paid, all 1920 Queens, healthy and no disease; if with nearly new W.B.C. Hives, £5 10s.; also quantity of shallow frame racks, W.B.C. and drawn comb or foundation, and other appliances.—State requirements to C. HART, F.D.I.S., The Gardens, Tolmers, Newgate Street, Hertford n.84

30 STRONG, healthy Italian Stocks, £5 each; 25 English Blacks, £4 each; April delivery.—YOUNG, 42, James Street, Cambridge. r.n.35

PURE LIGHT CAMBRIDGE HONEY, extra fine quality, 13-lb. tins, 17s. 6d.; 28-lb. tins, 36s. 6d.; carriage paid; sample 4d.—YOUNG, 42, James Street, Cambridge. r.n.36

COMPLETE MODERN APIARY FOR SALE.—30 strong Stocks, 37 splendid Hives, and a large quantity of Sundry Appliances in splendid condition, property of gentleman giving up bees through ill-health. Prices moderate; delivery early April. Lists free. Order now.—PEARSON & GALE, Marlborough. n.37

30 STOCKS of healthy Bees for immediate delivery, also large quantity Hives and Appliances, property of gentleman giving up bees through ill-health. Lists free. Order now.—PEARSON & GALE, Marlborough. n.38

FOR SALE the undermentioned, as owner is leaving district:—Ten Hives with Bees of Dutch descent, on about 10 frames, strong and healthy, with racks of sections and lifts complete, £5 each; one "Conqueror" Hive with Bees, etc., £6 10s.; one empty Hive, £1 10s.; Honey Ripener, £1 10s.; Separator, £1 10s.; large Honey Press, £1 10s.; Swarm Boxes (large), 5s.; Travelling Boxes to hold frames, 7s. 6d. each.—Apply, MAJOR HENDRIKS, Littlewick Meadow, Knaphill, near Woking. n.76

SURPLUS BEE APPLIANCES.—Several Hives, some new, Lee's Holborn hives, nearly every appliance, moderate prices; few Stocks, 8 frames, £4 10s.; owner obliged reduce stock.—HEWETT, 5, Owens Road, Queensland, Winchester. r.n.44

WILLOW-HERB, continuous bloom, roots 2s. 6d. dozen; Wild Hyacinths (Blue Bells), 2s. 100; carriage paid.—BRUMPTON, Thorpe Common, Rotherham. r.m.139

BEE-KEEPING.—Correspondence Course. Practical and theoretical study. Stamp.—MISS PALING, Golden Square, Henfield, Sussex. r.m.89

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

200 LBS. of good Honey for Sale. What offers?—MANAGER, Rudgwick Fruit Farm, Rudgwick, Sussex. n.18

WILLOW HERB, excellent honey yielder, twelve 2s. 6d.—BOWEN, Apiaries, Cheltenham. r.n.11

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1½d. per word.

BEES AND QUEENS FOR 1921.—Send for our Catalogue, free on application.—PEARSON & GALE, Marlborough. r.n.174

MAY DELIVERY.—From the Enrico Bozzalla Apiaries, Crevacuore, Italy. 3-frame Nuclei, British standard, £3 10s. each, carriage paid, boxes free, 1921 Queens.—S. H. SMITH, 30, Maid's Causeway, Cambridge. n.78

"THE AMERICAN BEE JOURNAL" for March contains articles on "Bee Conventions," *Dadant*; "Demonstration Apiaries," *Atkins*; "Some Queen Experiences," *Latham*; "Bee-Driving," *A. H. Bowen*, etc., etc. It is worth taking regularly. Subscription 10s. per annum.—Order from E. J. BURTT, Gloucester. n.80

NUCLEI FOR SALE from imported Italian stock, 3 frames, May £2, June £1 13s., July £1 10s.; 4 frames, May £2 7s. 6d., June £2, July £1 15s., carriage paid.—DAVIDSON, Forest Road, Burton-on-Trent. n.65

"THE Queens are laying splendidly. I am delighted with them.—Mrs. C." Italians. Queens 8s., Virgins 3s. Particulars, stamp.—HOUSTON, Ellen Villa, Sidcup. n.69

PROLIFIC ITALIANS, Golden and Three-band, select strains bred for business.—Particulars, Queens and Nuclei, from E. COOMBER, 64, Ronald Park Avenue, Westcliff-on-Sea. n.83

DUTCH BEES, 4-frame Nuclei, £2 15s.; Italians, £2 15s.; splendid cross of Dutch-Italian Hybrids, £3 3s.; May and June; carriage paid; cash with orders. You cannot buy better bees. Many letters from well-satisfied customers for previous years.—SEALE, Ashley Cottage, Oatlands Drive, Walton-on-Thames, Surrey. n.85

I SHALL have a few May and June Swarms for Sale, price £2. Orders in rotation.—THE HEATHERLANDS BEE FARM, Thursley, Godalming. n.86

UNITIVES enable the bee-keeper to dispense with shallow frame boxes, section racks, and different inner stock boxes for different brood frames. The essential dimension inside any hive chamber is the height of the inside wall on which the brood or super frames hang. In Unitives the bee-keeper constructs these inside walls for himself by combining various numbers of rebated, standard wall units inside the hive units to make self-complete supers for W.B.C. section frames or 5½ in. shallow frames.

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Legislation for Bee Diseases.

British bee-keepers acquainted with Canadian bee-keeping conditions and news must be aware of the great service which legislation for bee diseases has rendered to the Dominion and also to any bee-keeping community elsewhere which has adopted *and applied* legislation, relying chiefly on the weapon of *education* in fighting bee diseases.

To take but one illustration, let us consider the case of British Columbia, where legislation has not only managed to discover many nests of disease, but where laxity in applying legislation, or insufficient regard to instructing the average bee-keeper have contributed to maintain or to create epidemics, for we gather that at the present moment bee-keepers in parts of British Columbia are having a serious time with European foul brood. Yet the Canadian bee-keeping industry on the whole, since the introduction of legislation, has made great progress. Here is much food for thought. This also explains why we are anxious in this country not to have legislation in name only, or in the shape of the "big stick." Such a course would produce no good to the industry. In effect it would be a farce and a blunder.

There are indications to show that the Government are beginning to recover from the shock of recent bye-elections, and it is quite possible that the Bee Diseases Bill will see its way to Parliament ere long. It is up to us to demonstrate to the Government that bee-keeping in Great Britain should not any longer be considered as negligible, and to accelerate the journey of the Bill.

Having pledged themselves to set up a *Bee Advisory Committee,* representative of the craft, to advise regarding legislation and bee-keeping matters generally, the Government ought to fulfil that pledge forthwith. We have had enough in the past both of over-delay and undue haste, and we must protest against any return to one practice or the other. Let us have one or more meetings of the *Bee Advisory Committee* to further consider the provisions of the Bill, and the case for the Government in maintaining its draft. This is the only sane course for obtaining not only the assured majority, but practically unanimity for a good measure of legislation, and to the manner of its application. What trouble or costs will the Government be put to in convening this committee? Practically nothing. But just because a panic rule has been made for shelving the Bee Diseases Bill with many others in the "economy" campaign stunt, therefore we must pay the penalty for the Government's non recognition of the present status, and future possibilities of British bee-keeping, although the Ministry of Agriculture continue to assure the craft that they have their interests at heart. In urging on the Government to drop their dallying practice, organised bee-keepers will not only be fighting for the early introduction of legislation, when soon another season will be with us, but will also be demanding a higher recognition for themselves, since the recent treatment from the Government amounts to considering bee-keepers as no more than a nonenity. Much as we appreciate the excellent work of the Ministry of Agriculture, we must admit that many bee-keepers feel that the Ministry should have urged the Government to give greater consideration to the best interests of British bee-keeping We need not, however, dwell on this point. The call of the hour is that the Ministry of Agriculture should make amends. The present inertia is doing no good either to the Government or to the craft.

The correspondence reaching us from all parts of the country makes it clear that bee-keepers are determined to put an end to the present state of mockery, which has well suited the commercial adventurers for trying to sow discord amongst the craft, though without any lasting effect. As an illustration they have the audacity to suggest that because of their incoherent noises the Government have *withdrawn* (not merely postponed) the Bee Diseases Bill, and that so long as they are capable of barking, which we presume is a lasting qualification, no legislation will ever be introduced in this country! No thinking bee-keeper will be able to digest this sort of propaganda, but it cannot fail, when supplemented by the apathy of the Government, to reflect on the prestige of the latter in the eyes of bee-keepers.

Let us examine once more the *arguments* advanced by the opponents of legislation.

They say that they are alone the "practical" bee-keepers whose lead should be followed! The thousands of bee-keepers, great and small, who produce the bulk of our honey and constitute the overwhelm-

ing mass of the craft in *number, capital* and *labour* do not count! These are presumably "non-practical" because they are not of the boastful, pretending type. Assuming even that the opposition are all constituted of "practical" men, what confidence are they entitled to when the majority of them rely on insinuations and misrepresentations for advancing their views; when on their own showing we should sacrifice the interests of the craft as a whole to theirs, just because they are "commercial" men (a claim in *one* special sense which we do not dispute); and when their pretences disclose, on dissection, that their empty dirty boxes and skeps count as stocks, which apparently swarm in winter, to judge by the fresh claims since the discussion on Legislation!

They indulge in all manner of *theoretical* arguments about *Acarine disease* and *Nosema disease,* yet they carefully avoid the established *facts* and anxiously refrain from all reference to *brood diseases,* which are alone still responsible for *many* losses annually.

They say that they are opposed to registration because the small fee chargeable would discourage new bee-keepers! Yet having found that the Ministry of Agriculture do not propose to introduce registration at the beginning (a delay which we personally do *not* approve of), they are now, *with characteristic inconsistency,* insinuating that the object of dropping registration is to find work and an excuse for appointing a large number of inspectors!

They say that the introduction of Legislation is premature, because no satisfactory remedial measures for adult bee diseases exist (the serious brood diseases are again forgotten), as if the prevention of the spread of infectious diseases must necessarily be associated with successful remedial measures; or, as if in case such remedial measures can never be found, we must continue for ever to tolerate the trade in diseased bees!

They say that we have not a sufficient number of good bee-keepers as officials to administer the provisions of the coming Act. Over twenty years ago they used to advance the same argument! One wonders *when* will British bee-keepers be considered capable of making a *start* with Legislation, in spite of initial faults, or even blunders?

They say that the best alternative to Legislation would be for County Associations to buy for destruction diseased colonies and infected appliances. We can well understand the enthusiasm for such a suggestion, when we find it emanating from the very people whose carelessness has been an unworthy example for the wholesale spread of disease, and who never attempted to practice what they suggest to others! Of what use, we ask, would be such a cleansing course if reinfection is permitted through the non-restricted sale of bees? Are County Associations in the strong financial position that would justify such a proposal? Is it not ridiculous to suggest that the Government cannot spare the comparatively little money needed for educational and administrative work in connection with Legislation, but that the impoverished industry (which the opposition themselves are anxious to assert cannot conveniently provide the registration fees) is capable of relieving the Government from their obligations?

Most of them say that they are *not* opposed to the principle of Legislation, but that they are opposed to a "skeleton" Bill. Well, the Ministry of Agriculture have strong administrative, legal and even educational reasons for an elastic Bill based on the "Order" system, so well known and fully successful in public health measures. They are further convening a large representative *Bee Advisory Committee*, as previously mentioned, to advise on the provisions of the Bill, and finally on the administration of Legislation. The *Bee Advisory Committee* will consist of sixteen members, and the Government's nominees are no more than two. Further, the Ministry of Agriculture are perfectly willing to follow the desire of the Craft as a whole, and *not the orders of a single section.* Could we have hoped for any wiser policy?

They repeat their familiar insinuation that the object of Legislation is to create jobs for inspectors, and that they know some of the likely candidates or aspirants. Perhaps they do know them—amongst themselves. . . . So far as we are concerned, we do not know them, although we quite appreciate that aspirants to Government appointments will *always* exist. But we shall certainly never invite or support unmerited or unnecessary appointments. The application of Legislation must begin carefully, gradually, and methodically. Undue haste and enthusiasm or panic will do more harm than good.

They say that many former supporters of Legislation have joined the Opposition. With the exception of a *few* opportunists and adventurers, we emphatically assert that the cause and supporters of Legislation are stronger than ever. Credit is due to the Ministry of Agriculture for achieving this by their broad-minded policy; and if they will now stir up the Government to act, they will win the gratitude of the bee craft in the whole country.

The Royal Show at Derby.

The Derbyshire Bee-keepers' Association are holding their annual honey show in connection with the above. The annual show of the British Bee-keepers' Association is not being held at the Royal Show, but at the Grocers' Exhibition in the Royal Agricultural Hall in September. The Royal Agricultural Society have offered to provide the Derbyshire B.K.A. with a tent and staging for their show at Derby, but to make the show a worthy one, with open classes, will, of course, entail considerable expense. We notice in the annual report of the Derbyshire B.K.A. for 1920, their balance-sheet showed a deficit of £15 11s. 4d., due mainly to the last show. Their funds, therefore, are not in a good position for bearing the extra expense of a larger show this year, and they will be very pleased if bee-keepers can give them some financial help as well as making entries for the show. Any contribution, large or small, should be sent as soon as possible, and will be thankfully received and acknowledged by the hon. secretary, Mr. F. Meakin, 37, Pybus Street, Derby.

A Dorset Yarn.

Flowers for bees are very abundant just now. Most noticeable are the laurels, for where they are never pruned they flower most abundantly; the racemes stand up perpendicularly from the branches, and bees are on them many hours each day. The perfume is very strong, and the honey from them must have a decided taste. One can see on these how true the teachings of the writers are. The seekers after propolis do not vary; they can be seen searching the underpart of the leaves, up and down the veins of the leaves, but what they get one cannot see, as they do not stay long enough. They do not go off to the flowers where there are quite 100 to one which are collecting food; they must get a lot from these laurels, as they are so floriferous. The nectar seems to be most abundant in the flowers the second and third day after opening. The first day the stamens are all closely packed together round the female organ; either the bees cannot get their tongues between them, or else the nectar develops later. Now, with pears, the bees will get under the petals to get at the sweets that are within, but here the stamens and the divided stigmas are fully developed before the petals fully open. This is particularly noticeable in Jargonelle pears, bees are continually opening the petals to get inside. The laurels open the petals in the morning; the male parts of the flower are then cramped together at the base of the petals. There are many more bees on the older flowers than there are on the newly opened ones. The deduction I make is, the nectar develops as the warmth opens out the stamens and the pollen is liberated; then bees complete the fertilisation of flowers. Did they steal the nectar before the anthers had refined the pollen, then the fertilisation could not be helped by bees.

Gooseberries are opening freely, and bees are on them as soon as open. The sexual organs seem to ripen simultaneously; the pollen is of a somewhat sticky nature, not the dust-dry stuff one finds on some other flowers. That bees are a great help in fertilisation of these flowers I have made reference to before; that they are getting a lot of nectar from them is apparent by the motions they make when on the open flowers; the abdomen of the bee is continually moving as it does when sipping water on syrup. These thousands of flowers must give off many pounds of honey each row. Many varieties give two flowers in each place. The great rate of collecting shows that the bees are breeding very fast, and young ones can be seen beneath the glass covering; some of the combs are more than half filled with capped brood, and where the bees have matured and emerged another lot of eggs are laid; the extra strong hives are an object lesson, where the combs are *across* the entrance, the best and forward brood combs are at the back part of the hive. One exceptionally warm day I opened four of them; the reason of this was, a small swarm of bees were on the school allotment, and the boys came and advised me of same. There was not more than a double handful and they would not go up in a small skep that was placed over them, so had to open the cluster with finger (they were on the soil). The queen looked very small, and I thought not a mated one. Could not believe they came from our lot as they were so few. Went to look at the county restocking bees in an adjoining field; one of them had not a handful of bees, and there were but a few combs. The few bees were in great agitation, and did not attempt to sting; there was about a 4-in. patch of brood on one comb, but no queen. They had some old stores and plenty of freshly-gathered nectar, but why they left the home and young brood is beyond my comprehension. Did the warm day tempt the queen out for mating, and was she leading off to my big lot for that purpose? The brood may have been males. As they would not go in the skep, I found the queen and carried her back to the hive, placing her in

the top between the combs. The bees came back very soon, and the next day they were all out again. Why should they do this in March? It could not be the will of the workers to swarm out, so they must have followed the queen afraid of losing her. When I saw such a little brood I had to have a look at some of our strong ones. We can still learn of bees and their habits, the pollen, the nectar; the lengthening of cells in the lower corners showed that as the stores were emptied drone comb was being developed. All this in March is teaching the writer he has a lot yet to learn of bees.

Plenty of stores in autumn seems the first thing for good wintering. Ours fill in the brood chamber with large stores of common ling honey. I am not sure if this is the best honey for wintering, as we have lost in other years so many in winter. These had so much of this heavy honey in the comb. The Council bees were all wrapped up well; it was not cold or lack of stores that made them come out. Have never known bees to leave brood; the frames and combs were new, the hives were new, yet they left on two succeeding days, and each time they went in the direction of our lot.—J. J. KETTLE.

Jottings from Huntingdonshire

One advantage of a diary is that it keeps one from stating errors. Despite the wonderful winter and the earliness of spring, some things are not so forward as they were this time last year; others are far ahead of their last year's condition at this time. While in a sheltered border I have moulded up a row of early potatoes, peas planted at the same time as last year are much behind the early peas of 1920. Again, the lilac will be blooming a full fortnight earlier than last year, yet the elm blossom is that much later. Some spring flowers—like the lady-smocks—will blossom in a given spot year after year almost on the same day; others, like the cowslip, will in some years appear a full month earlier than others. The white thorn is not nearly so advanced as it was twelve months ago, while the brambles are in a more forward condition. Strangely enough, the brambles still hold their last year's leaves, and the sight of the old deep green, in some cases almost purple, leaves growing together with the young pale green shoots is most charming. Brambles, by the way, are almost becoming evergreens. In 1920 the old leaves remained until the new ones pushed them off; in 1921 both are there together. Another peculiarity of this spring is the falling of leaves from evergreen shrubs a full month before time—nature is fairly mixed up. Honey is being stored in the brood chambers, but very little sealed over; last year some found its way to supers ere March was out. However, one is glad to note that nectar is available from many sources, and that the feeders—this is my experience—are being ignored, except where stocks are weak in numbers. Well, the elms are blooming, and owners of Dutch stocks will do well to extend their brood chambers or add supers, or both. The wealth of pabulum in elms and hornbeam flowers just now is immense, to say nothing of the flowers of the meadows; one can smell the sweetness in the wind. The breeze-borne perfume being much enriched by the myriads of primroses and violets which are carpeting the spinneys and woodlets, and studding the banks. Oh, the sunny slopes and scented shades of spring-time! Happy bees, and happy we who live where honey grows. I can visualise brethren in the town being smothered with dust, saving unkind things about the wind, and missing the sweetness and the freshness of a mellow wind in March, not to say the infectious happiness of the bees.

There's a pathetic side to our picture, however. It sometimes makes one feel very sad—the marching forth of the old bees to die. Since early autumn they had carried on, kept the hive warm, taken care of the queen, fed the larvæ of future bees, and helped the young bees to establish themselves, and then, satisfied that their young sisters are able to hold the fort, have sacrificingly marched out to die. Some with wings worn to shreds, no longer able to fly, have done what they could in the hive, and no sooner were they conscious of hindering the work within than they left their home, never more to return. A few have made the bravest attempts at flight, flying three or four inches at a time for some fifty or hundred yards, and then crawling up some plant stalk to enter a flower, or burrowing 'neath a tuft of grass they have for the first and last time in their lives slept—slept into death.

I have at times found these old bees, awakened them, and fed them, and life comes back to them; but as soon as their honey-sac is full they want to fly off, their wings refuse to carry them, and then they despair. If you try this, one thing will strike you. The little creatures will seek you out, once they have been fed. Place them in any part of the room you wish, as long as their little legs have strength they will crawl to where you are, and, if you let them, disappear up your sleeve and wait for death. What sacrifice! But a bee's life is always this. A

spring-born bee especially. From its birth till its death it spends its life and strength for others. Is it not wonderful? It is. Hence why bees are so much loved by those who keep them for pleasure as well as for profit

I find all my queens are laying and the stocks promise well. Let the weather be good, and I can almost hear the hive voices saying "Full steam ahead."

E. F. HEMMING.

Steeple Gidding,
March 24, 1921.

Notes on Legislation.

It is said that the principle of Legislation is endorsed by almost every bee-keeper, but that there is an appreciable opposition to the present Bee Disease Bill as it stands. Since more than one reference has been made in the JOURNAL to my comments, I am availing myself of your courtesy in submitting a general brief survey, both retrospective and prospective.

1. *The Need for Legislation.*—To the ravages of adult bee diseases in Great Britain, especially during the last ten years, combined with the absence of satisfactory remedial measures, is due the growing interest in preventive, or rather controlling, procedures, and consequently the study of bee-keeping conditions in other progressive countries where Legislation is in operation. The concensus of opinion is that Legislation has been helpful to these countries, and therefore is worthy of adoption here. That in spite of its operation in other countries diseases are not extinguished is only logical, and obviously does not mean that in its absence greater control of bee diseases can be achieved. That journalists and former inspectors in the U.S.A., for instance, are laying stress on the value of educational persuasion instead of the big stick only speaks for the best form which the application of State control should take in the majority of instances, but I fail to see that it means in the least abandoning State supervision. In fact, in the absence of such supervision it would be impossible to forestall or check a threatening epidemic.

The attention that has been given within recent years to selective breeding in Great Britain has undoubtedly done a good service to bee-keepers. Yet there is no doubt also that it has been partly neutralised by the careless element of bee-keepers who are not prepared to accept a joint minimum of sacrifice in order to maintain an apiarian standard of health. When the Ministry of Agriculture finally introduced their restocking scheme and infused our apiaries with a live antiseptic in the shape of Italian and Dutch blood, they were morally bound to ascertain the powers of the new agent. Having found it mildly strong, but not over-powering, it was their clear duty not to leave their constructive work unguarded, otherwise they would simply be destroying by their indifference in one direction what they are building with enthusiasm in another. The Government cannot therefore be blamed for their worry over the question of Legislation, after doing their best to explore the "immunity" side of prevention.

2. *The 1920 Conferences.*—The Conference officially convened in February, 1920, to examine this question, although, I maintain, could hardly have been described as fully representative, *is certainly more representative of the craft than any Conference that has taken place since then.* From a study of its proceedings, there is no doubt that the great majority of the members were in favour of the current Bee Disease Bill, criticism being limited to a small opposing section, although the vote was limited to the principle of Legislation.

I need no assurance that the Government could easily have pushed the Bill through Parliament, and it certainly speaks for the wisdom of the Ministry of Agriculture to have refrained from exercising their powers to the extent of a precipitate introduction of Legislation, and doing instead their best to win the good will and co-operation of the craft.

Undoubtedly, the main credit for stimulating the Ministry of Agriculture regarding the introduction of Legislation, which now seems inevitable (whether it is going to be a boon or a curse), will belong to the B.B.K.A. The Association distributed appeals for Legislation, which were signed by many bee-keepers, and have given the current Bill their moral support. Whatever amendments or fresh details of procedure are going to be introduced, the Association still has a big claim to the main credit. As one of its members, I am therefore surprised at this stage no educational literature by the B.B.K.A. has been compiled and distributed amongst the rank and file of bee-keepers and Members of Parliament. My surprise is shared by many others, as it is inconceivable that such an important point has been ignored, and it is earnestly hoped that its application will not be much delayed.

It is a painful fact that some bee-keepers who signed that unconditional appeal, and induced others to do so, were

amongst the first to denounce a measure which they were bound in honour to support, considering that it was sanctioned by the Association's Council. The reason is obvious when it is remembered that a certain section of the opposition announced that the "biggest" fishermen were against it. The bait proved only too inviting to the little fish, which, though still swimming within the fishermen's net, imagine that they are free—such a curious mentality presents unsavoury irresponsibilities that are hardly fit for discussion; and, thanks to your courtesy, the liberal space accorded to this type of opportunists has on the one hand brought their tactics to light in more than one aspect, and not only in relation to Legislation, although it has also developed the undefined myth of an unscrupulous opposition. Their methods of developing their interests at the expense of other people, to whom they should owe gratitude, have placed the real standard of their education, motive, and experience in sharp relief; and you are certainly to be complimented on the sagacity of your patience.

3. *The Application of Legislation.*—I certainly support the principle of Legislation for defined infectious bee diseases, and consider that in its absence the restocking activities of the Ministry of Agriculture are at least partly nullified, as previously remarked. It is also no secret that I did *not* sign the Association's unqualified appeal, and that I consider the present Bill conferring on the Ministry very wide powers; yet I have not been working for wrecking the Bill, as others are doing under a disguise, but for amending it or introducing adequate safeguards. Equally, I have never been known to have either the time or the inclination to take part in those peculiar meetings, the proceedings of which are chiefly based on personalities.

4. *The Opposition to Legislation.*—There are certainly some sincere opponents to Legislation, people who believe entirely in education and co-operative efforts, backed perhaps by Government grants. They calculate that such a scheme would on the one hand encourage bee-keeping, and on the other would foster education, which, after all, is the essential factor in success, and yet without incurring big expenses, as feared would be the case under the coming Bee Disease Act. The more one examines those views the more one is bound to feel that unless some official authorisation is given to any such scheme it is bound to fail through the obstructions of the selfish, who are bound to work against the common good. However, the views of this section of the opposition (who in a measure are alone qualified to that title) are bound to meet with the respect and consideration of the Advisory Committee. It is quite possible that when their apprehensions appear to them unjustified that their co-operation would be forthcoming.

Another section of the "opposition," and that description in reality does not apply to them, sincerely believe in the necessity of Legislation, but fear the wide powers of the 1920 Bill. Assure them on tangible grounds that the Advisory Committee will not be a sham, and that there is no question of rushing with measures or taking decisions or actions without the co-operation of the craft, and their good will is assured.

As to the noisy clique and pretenders who preach what they *never* practise; who play on the susceptibilities of the average bee-keeper, whose interests they have traditionally ignored, and yet have the audacity to claim his protection; and whose methods of propaganda are entirely devoid of accuracy and a sporting spirit, well . . . I agree that the sooner they are completely ignored the better. We have already had enough of their displays and camouflaged advertisements. In fact, they would never have thrived without the unmerited courtesy extended to them. They have been taken at their word, and have already shown their worthlessness. A page of the JOURNAL is an ample space for breaking up their arguments, but they will never get tired of inventing new ones, and also fresh accusations. This is a fight between Progress and reaction, and I have no doubt as to which side will win.—

A. Z. ABUSHADY.

Feb. 2, 1921.

Amazing Circumstances.

I have noticed this winter a large number of stocks have gone under. Why, I do not know. THE BRITISH BEE JOURNAL has from time to time kindly published ideas of mine that have never failed. It is extraordinary how people whom I have advised take no notice, and carry on in the same old unhealthy way, and are upset when they are asked how they expect a stock to live under those poor conditions. Result: When spring arrives they are the first to come with sad faces, saying their bees are all dead. The call must be that this must stop. I propose, with the permission of THE BRITISH BEE JOURNAL, to send a series of photographs of the way to keep bees alive. Also I shall make a number of slides explaining ways and means, showing results, and do my best to go to any place with a lantern and lecture, so bee-keepers may see for

themselves how things can be done. One wants to see *healthy stocks* in the spring, not *dead bees*. It can be done, so why should I stand and look on and do nothing? Buck up, England, here's help! —C. TREDCROFT.

[Mr. Tredcroft is very sanguine. If he can help bee-keepers to winter their stocks better, and to persuade many to adopt better methods, he will be a benefactor to the craft.—EDS.]

Derbyshire Bee-Keepers' Association.

ANNUAL MEETING.

The annual meeting of this Association was held on Saturday, at the Central Hall. Owing to the regrettable absence of Mr. A. Preston Jones, Mr. G. T. Pallett (Makeney) took the chair. Sympathetic reference was made to the lamentable death of Mr. R. Giles (Etwall), for many years chairman of the Association, the chairman stating that it was only a few weeks ago the committee decided to present him with an illuminated address as a token of their appreciation of his services. This address had been most artistically executed, and was now on view. It was hoped some member of the family would accept this finely-framed testimonial as an expression of the esteem in which he was held by Derbyshire bee-keepers. The committee's 39th annual report reviewed the year's activities, the membership having increased from 105 to 170. The balance-sheet exhibited an expenditure of £232 11s. 1d., the deficit of £15 11s. 4d. being mainly due to the last show. The re-stocking scheme, which had been very successful, was being again carried forward by Mr. H. Hill (Ockbrook). The Royal Agricultural Society's offer to provide tent and staging at the next Royal Show in June was accepted. A special sub-committee was appointed to deal with the work. A hope was expressed that sufficient financial support would be forthcoming to enable the committee to stage the exhibits with credit to the county. After tea and a prize drawing, the Rev. H. R. N. Ellison read a paper on "The utility of the honey bee in the pollination of fruit and flowers," Mr. Hill, in happy mood, giving some of his experiences as an expert, both addresses being much enjoyed.

Essex Bee-Keepers' Association.

The annual meeting of the Essex Bee-keepers' Association was held at the Institute of Agriculture, Chelmsford, on Saturday, March 12, Mr. C. G. Winn presiding.

The Committee's forty-first annual report stated that last season was a disappointing one; July, August and September were cold and wet, and swarms that had not been liberally fed died out. The mortality from this cause was heavy. The autumn found stocks very short of stores and brood, while a good number were queenless and had to be joined up for wintering. Disease seemed to be declining generally in the county. Under the Lady Colvin Re-Stocking Scheme thirteen stocks were supplied to residents in Essex last season, but owing to adverse weather conditions queen raising was seriously interfered with. It was pleasing to note the increase of subscribers to the parent Association as well as to the branches. The Committee referred to the successful show held at Colchester, and mentioned that several new Associations had been formed or were in progress of formation in the county, and Mr. R. Stroud, of Ilford, had given a silver challenge cup, to be held by the Association making the most progress during the previous year. The cash account showed a balance in hand of £34 3s. 1d. The report and balance-sheet were adopted.

The following were among the officers re-elected:—President, Lady Gwendoline Colvin; treasurer, Mr. G. S. Faunch; secretary, Mr. G. R. Alder. Mr. H. Stroud was appointed a representative to attend the quarterly meetings of the British Bee-keepers' Association.

The members and friends were afterwards entertained to tea, and in the evening Mr. G. R. Alder opened up an interesting discussion on "Co-operation in Bee-keeping."

Sheffield and District Bee-Keepers' Association.

A most interesting and instructive lecture on "Modern Bee-keeping" was delivered on Friday evening, March 11, 1921, in the Sheffield University, by Mr. W. Herrod-Hempsall, F.E.S., which was attended by fully 250 members and friends. Mr. J. D. Outram (one of the Association's vice-presidents) most ably carried out the duties of chairman, and, in introducing the lecturer, said that it gave him the greatest delight to preside over this meeting, but he would refrain from delivering anything in the nature of a speech, leaving the lecturer full scope to deal with his subject in his usual and most able manner.

The lecturer dealt at some length with the study of bee-keeping in all its stages, right from the beginners's point of view, to the advanced methods adopted by the bee-keeper of long standing.

The lecture was admirably illustrated by a most interesting series of lantern slides, which could not fail to bring home

to the ordinary layman's mind the many important details of this most fascinating, instructive and profitable craft. These were fully appreciated by all present.

A hearty vote of thanks was accorded to Mr. Herrod-Hempsall, on the resolution of Mr. W. Barlow, which was seconded by Mr. A. Warburton. The lecturer, in responding, said that he was pleased to see such a large attendance, and that he was particularly indebted to the chairman for not taking up much time in his opening remarks, thereby enabling him (the lecturer) to have full scope in dealing with his subject.

(Communicated.)

Warwickshire Bee-Keepers' Association.

ANNUAL MEETING.

The annual general meeting of this Association was held at 13, Bennett's Hill, Birmingham, on the 17th inst., under the presidency of A. H. Foster, Esq. (chairman of the committee).

The reports and statement of accounts having been approved, the president, vice-presidents, committee, and officers were elected.

The new expert, Mr. S. Leedham, of Lower Bentley, near Bromsgrove, was appointed in the place of Mr. George Franklin, who resigned, owing to impaired health, after twenty-six years' service of excellent work to the Association.

In consequence of the greatly increased expenses of the Society over those of pre-war days, it was decided to make the minimum subscription of cottage members 5s., and that of other members not less than 10s.

With reference to the proposed Bee Diseases Bill, the following resolution was passed thereon:—

"That this Association, at its annual meeting, regrets the withdrawal, for the time being, of the Bee Diseases Bill, as it is felt absolutely necessary that there should be legislation dealing with bee diseases."

Edinburgh and District Bee-Keepers' Association.

REPORT FOR THE YEAR 1920.

The number of members at December 31, 1920, was 63, and of patrons 3, as compared with 48 and 3 at the corresponding date in 1919—an increase of 15.

The hon. treasurer's statement of accounts showed that the year began with a credit balance of £2 12s. 7d.; that the sum received in subscriptions from members and patrons amounted to £5 15s.; and that the payments came to £4 2s. 11d.; leaving a balance in hand of £4 4s. 8d.

The following is a list of the lectures, demonstrations, etc., during the year:—

April 8.—Mrs. R. Robertson: "Town Bee-keeping."

May 13.—Mrs. G. B. Taylor: "A Little Bee Knowledge is a Dangerous Thing."

June 19.—Tea and Demonstration at the President's Cottage, Balerno.

July 10.—Tea and Demonstration at Dr. Jerdan's, Colinton.

October 13.—Mr. A. Robertson: "The Humble Bee: Its Habits and Life History."

December 9.—The President: Demonstration on "Straw-hive Making."

At the close of their last report the committee expressed the hope that interest in the work of the Association would be maintained during the year 1920. It is felt that this hope has been amply realised.—(Signed) W. Henry Menmuir, President.

At the annual meeting on March 10, Mr. Jas. Nesbit was elected president for 1921. Mr. A. Canning Williams, the hon. secretary, intimated that he was about to leave Edinburgh, and take up residence at Letchworth, and must, therefore, resign his office. Mr. W. Maxwell, hon. treasurer, also wished to be relieved of his duties. The meeting decided to unite the offices of secretary and treasurer, and Miss Nancy Veitch, 2, Spylaw Road, Edinburgh, has since consented to fill the position. At the conclusion of the business Miss Mary Ritchie, president of the Natal Bee-keepers' Association, read a paper of absorbing interest and charm on "Bee-keeping in South Africa."

British Bee-Keepers' Association.

LECTURES AT GOLDERS HILL PARK.

A special course of six lectures on bee-keeping will be given in the British Bee-keepers' Association's apiary, London County Council Park, Golders Hill, London, N.W., on Fridays, April 22 and 29, May 6, 13, 20, and 27, at 6 o'clock each evening.

Those desiring to attend these lectures must make application at once for enrolment and particulars to—W. Herrod-Hempsall, Secretary, 23, Bedford Street, Strand, London, W.C.2.

A simple "chat" on bees will be given free, at 3.30 each afternoon, before the lectures.

Will members of the B.B.K.A. kindly bear in mind that the yearly subscription is now 10s. 6d.—not 5s., as formerly—and thus save the secretary much time, and the Association expense, in writing for the extra amount.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Legislation on Bee Diseases.

[10,416] As you are inviting bee-keepers to give their opinion on the above matter, and to write their M.P. to support the measure, may I say I am much in favour of legislation, but I want a sweeping Bill before I will ask my M.P. to support it.

I don't wish to be classed amongst those who are trying to oppose legislation with underhand work. The Bill I want must prohibit *all* importations of foreign bees and queens for the next ten years, and that all foreign bees or their crosses found in Scotland be destroyed and compensation paid at the rate of 6d. per queen (that is, more than double value).

Also that anyone found rearing queens in any artificial manner and offering the same for sale will be under a penalty of £20.

Along with many other bee-keepers I am firmly in the belief that the importation of foreign bees and queens, together with unnatural management, is the root of all the troubles now connected with bee-keeping.

I now appeal to Scottish bee-keepers to take this chance at a dash for liberty before it is too late. There are still a number of pure native bees through Scotland that have not been defiled by foreigners, nor tramelled by the diseases that have followed in their train.

As soon as we can have our country cleared of the foreign rubbish, let us secure all those pure native stocks, or arrange with their owners to work them for swarms in the natural way, and have those swarms distributed, so that we may establish our own native bees, *the only bees to stand our climate*. And let everyone work them as near to nature as possible, then we will see the end of acarine disease.

I notice you refer to what folks may say about inspectors. We know there are always a lot of the "do-little" class standing by on the look-out for such a job, and somehow they always get them. And if we have to judge by experts we have seen, and inspectors on various jobs we have met, carrying all their knowledge in their pocket-book in the shape of a certificate for what they don't know, or their warrant card appointing them as an inspector.

In this matter I would have nothing but a local, thoroughly practical man, who has had many years of experience, and only give him a few parishes, so that he would be near his work and ever-ready. —J. THOMSON, 4, Burn Street, Dalbeattie.

[Some bee-keepers think we are a bit "warm" on the subject of legislation, but we are not prepared to go the pace of our correspondent. However, his letter may serve to show that, between the opinions it expresses and the opinions of those opposed to legislation, our atitude is not at all unreasonable. —EDS.]

Keeping Bees near Arsenic Mines.

[10,417] In the summer of 1918 I bought a stock of bees from a gentleman in the South of Devon. They weighed 6 lbs. and numbered about 25,000. The bees were forwarded in a hive, and I received them at a railway junction. As the hive was taken from the luggage van I noticed two or three bees had made an exit and were flying around. The hive and bees were placed in another train for their destination, a distance of five miles. The porters at the station refused (from fear) to help me with the bees, so I lifted the hive on to a barrow and wheeled it to the luggage van of the train. In doing so some part of the hive must have become dislocated, and dozens of bees were now flying around. The guard of the train refused to enter the van or help, so I lifted them myself. Hundreds were now wheeling around me in the van, and in this state I was obliged to travel the five miles. However, by remaining still and not disturbing them they settled peacefully until the station was reached where they were to land. Then the fun commenced. The platform was soon cleared of passengers, but I stood my ground without any protection in the way of a veil or gloves, and at last got them into a barrow to take home, a distance of half-a-mile. This was at nine in the morning, but the bees did not reach my garden until ten o'clock at night. The way home was along a rough, narrow lane, with just room for a cart to pass. When about two hundred yards from the station the bees came out in thousands and were simply mad. So I left the hive in the middle of the road and went to the nearest farmhouse in search of a pair of

gloves and a veil. The farmer's wife (a kindly soul) gave me a pair of woollen socks to wear in place of gloves, and a piece of window curtain for a veil. In this rig-out I approached my bees in the middle of the road, only to find that they had barred the way for several carts containing strawberries which were being taken to the station. The drivers greeted me with oaths, and told me to get the —bees out of the way, as they must get their strawberries to the station for the next train, which was in ten minutes' time. So, in desperation, I took the barrow with the hive of bees and wheeled it into the hedge to clear the way, as I thought. But, no! the strawberry dealers refused to drive past while the bees were flying around in thousands. In this dilemma I asked a neighbouring farmer to allow me to wheel the hive into his private drive. He acquiesced, and there they were left until more peaceful, and intended taking them home in the evening. However, during the afternoon the farmer came to say that my bees were swarming in his garden. Ridiculous, I thought, but on reaching the garden found hundreds sitting in a row on the edge of a long water-trough drinking and then flying back to the hive. This went on for fully an hour. The bees must have been thirsty. They were fastened in the hive the previous evening, and the next day was very hot.

About 8.30 p.m. they were very quiet, so I make another attempt to get them home. For thirty or forty yards things went smoothly, but on reaching an uneven part of the road the hive gave a jerk, and out the bees came in thousands. As there was just a short distance to go, I resolved to get them into my garden. It must have been ten o'clock when they landed, after one of the most exciting days of my life.

The next morning they were working very hard, and as I was looking at them the faces of two old men appeared over the garden wall. One of them exclaimed: "Hello, been getting bees?" "Yes," said I. So the other old man remarked that they would soon die. Was not this comforting after the previous hard day? So I asked him why they would die. He said the arsenic fumes from the mines killed all the bees in that neighbourhood. They were kept in abundance in that locality at one time, but now not a stock except mine was to be seen. However, future events proved that he was mistaken, as my bees are going on splendidly, and I have now kept bees for two years.—G. ORD, S. Devon.

[The bees were most likely killed off by "Isle of Wight" disease and not by the fumes from arsenic.—EDS.]

The Onion Cure.

[10,418] As a reader of your JOURNAL I wish to thank the writer of the article on "Bee Disease and the Onion Cure."

I had lost some bees, and then tried the onion recipe, but I may say that I have improved on that by using garlic, instead of onions, and now my bees are quite healthy.—F. A. KNIGHT, Stroud, Glos.

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on MONDAY MORNING for insertion in the "Journal" the same week.

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FOR SALE, three strong Stocks on 10 combs hard-working Hybrids, ready end April, £4 each.—ROUND, Second Class Expert, 38, Arngask Road, Catford, S.E.6. n.89

BARRON'S LEGHORNS.—Sittings, 7s. 6d. dozen, carriage paid; unfertiles replaced.—HOWLETT, "Sylvabelle," Tring. n.90

BEE-KEEPING TUITION for Ladies in Apiary. Short or long courses, as required.—MISSES PALING & PILLANS, Golden Square, Henfield, Sussex. n.92

WANTED, some Bees; exchange collection of Leblond Prints.—HOULDEN, Yeadon. n.96

WANTED, pure Native English Fertile Queen Bee with a pound of Bees; 1920 Queen will do if a good one.—D. H. DURRANT, New Eden Apiary, Petersfield. n.98

FOR SALE, small Apiary, consisting of three good, healthy Italian Stocks, 1920 Queens, three W.B.C. Hives, nine supers of partly-drawn combs, Skep, Extractor, Ripener, Uncapping Knife, Smoker, three Feeders, four Queen Excluders, one Porter Escape Board; satisfaction and safe arrival guaranteed; reason for sale, owner leaving; price £24, carriage paid.—Box No. 16, B.B.J. Office, 23, Bedford Street, Strand, W.C.2 n.99

FOR SALE, "Modern Bee Farm" and other Bee Books; all good condition. Write for list.—Apply, Box 18, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. n.118

FOR SALE, six good Hives, fitted with drawn-out comb for brood chamber, shallows and sections, Lee's and Taylor's W.B.C., cheap for cash; other appliances; near London; never had "I.O.W." disease.—Apply, Box 17, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. n.117

FOR SALE, three W.B.C. Hives with inner chamber, super, and section rack, roofs covered calico, all painted three coats; never been used; £5 15s. the three; bargain.—W. ARNOLD, 242, Wimborne Road, Winton, Bournemouth. n.97

HAVING found by experiment the best type of hive, etc., for my district, I am selling all my other Hives and Appliances in good condition, disease free, at cheap rates. Everything on approval. Let me know what you want.—E. W. D. MADOC, Mattishall, Dereham. n.100

THREE STOCKS of Italian Hybrids for Sale; guaranteed healthy; travelling boxes to be returned; price £4 each.—HANSON, 24, Triangle, Ilkeston. n.101

FOR SALE, three Hives, including one W.B.C., all in good condition; two Excluders, two Veils, Smoker, Section Rack, Sections and Foundation Frames and Candy; also one Stock of Bees. —MISS WARD, The Manor House, Abbots Langley, Herts. n.103

SITTINGS OF EGGS.—White Wyandotte (Cam's), Anconas (Wilson's), White Runner Ducks (Taylor's), 7s. per sitting.—C. GIBSON, Bridge Foot Apiary, Radwinter, S. Walden, Essex. n.104

ITALIANS.—A few lots for disposal, May-June, £2 5s.; all frames, brood and bees guaranteed healthy; never had disease.—Particulars, ATKINS, West Grove, Hersham, Walton-on-Thames. n.105

SURPLUS HIVES, Appliances, etc., for Sale. New Section Racks, with metal girders, 4s. each; Frames, all sizes, in stock.—BULLOCK, York Road, South Farnborough, Hants. n.106

THE MISSES COATES, breeders of White Wyandottes.—Sittings of Eggs, 12s. 6d.; Chicks double. Pedigrees given.—The Broadheath, Presteigne. n.107

COMING SEASON'S HONEY.—Wanted up to 5 cwt. finest pure English Honey.—Write, FLEMING'S RESTAURANT, 68, Oxford Street, London, W.1. n.115

FIRST CLASS EXPERT desires to teach wounded and neurasthenic soldiers Scientific Bee-keeping; large practical experience in establishing and running apiaries.—Box 15, BRITISH BEE JOURNAL Office 23, Bedford Street, Strand, W.C.2. n.68

FOR SALE, three Stocks of Bees in new W.B.C. Hives, healthy, one spare Hive and Accessories. Offers.—BAKER, 20, Quintin Avenue, Merton Park, S.W.20. n.75

WANTED, healthy Swarms, May-June next; boxes provided.—Send full particulars and price, Box 13, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. r.n.39

SEVERAL healthy Stocks for Sale, on 7 frames, delivery early April.—KINGSCOTT, Muxelwell Farm, Pembury, Kent. r.n.40

SEVERAL Stocks of Bees, Italian Hybrids, £4 10s.; guaranteed strong and healthy; box 10s. extra, returnable.—REV. COOPER, 62, Park Hill, Carshalton r.n.77

30 STRONG, healthy Italian Stocks, £5 each; 25 English Blacks, £4 each; April delivery.—YOUNG, 42, James Street, Cambridge. r.n.35

PURE LIGHT CAMBRIDGE HONEY, extra fine quality, 13-lb. tins, 17s. 6d.; 28-lb. tins, 36s. 6d.; carriage paid; sample 4d.—YOUNG, 42, James Street, Cambridge. r.n.36

COMPLETE MODERN APIARY FOR SALE.—30 strong Stocks, 37 splendid Hives, and a large quantity of Sundry Appliances in splendid condition, property of gentleman giving up bees through ill-health. Prices moderate; delivery early April. Lists free. Order now.—PEARSON & GALE, Marlborough. n.37

BEE-KEEPING.—Correspondence Course. Practical and theoretical study. Stamp.—MISS PALING, Golden Square, Henfield, Sussex. r.n.69

SURPLUS BEE APPLIANCES.—Several Hives, some new, Lee's Holborn hives, nearly every appliance, moderate prices; few Stocks, 8 frames, £4 10s.; owner obliged reduce stock.—HEWETT, 5, Owens Road, Queensland, Winchester. r.n.44

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

BUSINESS ADVERTISEMENTS.

1½d. per word.

BEES AND QUEENS FOR 1921.—Send for our Catalogue, free on application.—PEARSON & GALE, Marlborough. r.n.174

1921 PURE FERTILE ITALIAN QUEENS, direct from Abbé Warré, France. One large bee-keeper had 18 of these Queens in 1919 and 42 in 1920. 9s. each, May/June delivery.—ELLIOTT, "Westfield," Kelvin Road, Ipswich. n.88

BUY LEE'S UTILITY BEES to ensure a crop of surplus honey for 1921. 4-frame Nuclei, 50s.; 6-frame Stocks, 70s., May/June delivery.—J. H. LEE, "Little Bowden Apiary," Burgess Hill, Sussex. r.n.93

VIGOROUS QUEENS, home bred or imported, 12s., 12s. 6d., May delivery. Instructive booklet.—BOWEN, Cotswold Queen Specialist, Cheltenham. n.94

HONEY FOR BEE FEEDING.—Finest West Indian, case of one 56-lb. tin, 49s. 9d.; two 56-lb. tins, 82s. 6d.; four 7-lb. tins, 29s. 6d.; Australian, one 60-lb. tin, 46s. 6d.; carriage paid 100 miles.—LONDON TRADING AGENCY, 32, St. Mary Axe, E.C.3. n.108

ITALIAN NUCLEI.—Can book a limited number June delivery (subject to weather), 3 frames, 35s.; 4 frames, 45s., carriage paid; 10s. deposit on box, returnable (Simmins' strain); guaranteed healthy.—HOWLETT, Sylvabelle, Tring. n.91

PURE imported Carniolan Alpine Queens, resist foul brood and severe winters, best honey gatherers. Order one; you will want more. List free.—B. WOODLEY, Thorne, near Doncaster. r.n.102

UNITIVES have the entrance arrangements completely and entirely in the floor stand The honey-flow entrance is 16 in. x 1 in. deep, but a pair of double-ended slides regulate it to any length, and also make a winter, spring and autumn entrance 4 in. x ⅜ in. deep. Again, the tunnel top can be unscrewed and removed, and direct access to supers arranged by letting the bees travel up inside between the walls, and cutting an entrance in the bottom of the lowest wall unit in the super chamber above the brood frames; or, by placing section rack or shallow frame box right up against hive front, the frames running from side to side.

With a stock of Hive Units and Wall Units the bee-keeper can at any time construct brood chambers for 14 in. x 8½ in., 16 in. x 10 in., 14 in. x 11¼ in., 11½ in. or 12 in. brood frames, and for brood chambers he may use combinations of section or extracting depth Hive Units when these are not wanted for supering purposes, as the Wall Units will make up inside walls of the essential height required.

All inter-working parts are made to jigs to maintain continuous interchangeability. The hive packs up flush and square for heather-going, is easily packed—there are no legs on the floor stand—and ventilation is automatic. Roof is zinc covered to withstand roping and usage, and is flat. The design is protected.—Made only by the Inventor, J. B. BALLANTYNE, 161, Trongate, Glasgow. n.116

HARDY COTSWOLD BEES, prime colonies, May delivery. Book now. List.—BOWEN, Apiaries, Cheltenham. n.95

YOUR SUREST SAFEGUARD against disease—Atkinson's fine Italian strain.—Bee Park, Fakenham. r.n.109

8S. ITALIAN 1921 fertiles, May; 8s. 6d., April.—ATKINSON, Fakenham. r.n.110

QUEENS, QUEENS, QUEENS.—Pure Italian; none better.—ATKINSON, Fakenham. r.n.111

QUEEN strain counts, price too.—Write ATKINSON, Fakenham; secure both. r.n.112

"RESERVE 30 Queens for this season's work. Your Italians are 'it.'—S. C. L." Thanks S. C. L., I will.—ATKINSON, Fakenham. r.n.113

BUCKINGHAM BROS., Metal and Wire Workers, Warwick Road, Luton.—Try our Swarm Catcher, 4s. 3d. Collapsible Galvanised Chicken Runs, will not rust, made in four parts, 8s. 6d., carriage forward. r.n.114

PROLIFIC ITALIANS, Golden and Three-band, select strains bred for business.—Particulars, Queens and Nuclei, from E. COOMBER, 64, Ronald Park Avenue, Westcliff-on-Sea. n.83

I SHALL have a few May and June Swarms for Sale, price £2. Orders in rotation.—THE HEATHERLANDS BEE FARM, Thursley, Godalming. n.86

UNSURPASSED IN VALUE.—To popularise the new method of scientific bee-keeping, *Adminson's Semi-comb* is sold at almost cost price.—ADMINSON, LTD., Benson, Oxon. n.79

ITALIAN QUEENS, very hardy, home bred, 10s. 6d. each; Virgin Queens, 4s. 6d. each; 3-frame Nuclei, 55s., other varieties 42s. each. Swarms during season.—S. CRAWFORD, Apiaries, Castlederg, Co. Tyrone. n.52

BREEDER QUEENS: THE FOUNDATION OF SUPREMACY.—A limited number of Adminson's renowned *Breeder Queens* (pure Carniolans, Italians and Dutch, guaranteed about one year old) available in rotation during June and July for commercial breeders and research students; price per Queen with one comb nucleus of her progeny, £2 10s., carriage paid. A unique speciality and value.—ADMINSON, LTD., Benson, Oxon. r.n.53

BOOK NOW!—I still have a few Stocks for disposal. Pure Italians on 8 frames, £5. I make a speciality of 3-frame Nuclei, and can strongly recommend them as the very best value, £2 10s. Disease free. Cash with order.—A. WILKINSON, Farnham, Saxmundham, Suffolk. r.n.57

1921 PURE CARNIOLAN QUEENS.—Whether home-bred or imported, our Carniolan Queens are derived from Jan Strgar's famous Alpine strain, for which we have the *Sole Agency* in the United Kingdom. Price (from May onwards), 17s. 6d. per Queen; safe delivery guaranteed. A decidedly modest outlay on an investment which more than repays.—ADMINSON, LTD., Benson, Oxon. r.n.54

ADMINSON'S SEMI-COMB. — For durability, utility, price of constituent materials, and excellence of manufacture, Adminson's Semi-Comb is by comparison one of the *cheapest* apiary appliances and yet one of the valuable assets for an up-to-date apiary.—ADMINSON, LTD., Benson, Oxon r.n.175

OFFER.—Pure Italian Queens or Nuclei, unrelated stock, 13s. 6d. comb.; Hybrids or Brown, 11s. 6d. comb, mid May, season permitting, carriage extra; case 6s., returnable.—A. H. HAMSHAR, Wonersh, Guildford. r.n.24

"WIGHT" DISEASE.—Prevention and removal. Invaluable advice, 5s. 6d. "An eye-opener."—ALF. RYALL, Whiteway Apiary, near Camp, Stroud r.n.169

KAT-A-LOG ahead of all.—MEADOWS, Syston, Leicester. r.n.176

ENSURE a good honey crop this year by purchasing our noted 6-frame Italian Stocks. Catalogue free on application.—PEARSON & GALE, Marlborough. r.n.173

SWARM CONTROL.—The secret of profitably managing prolific bees lies in the *Brood-Hatching Chamber*, the appliance that made the Dutch bee and other large breeders pay. Hundreds in regular use all over the country and abroad.—ADMINSON, LTD., Benson, Oxon. r.n.170

BEES FOR SALE.—Stocks from £4; May and June Swarms, £2; 3-frame Nuclei, 50s. Orders booked now.—KNOWLES, Thursley, Godalming. r.m.135

THE CAPITAL THAT COUNTS: REPUTATION.—"I had from you two queens two years ago. Will you supply me with about six this year? Yours are the finest queens I have ever had—wonderfully prolific and disease resisting. Their progeny get honey while others starve."—W. J. P., Chesterton, Staffs., February 25, 1921. A typical unsolicited testimonial. We command our price. You command our standard.—ADMINSON, LTD., Benson, Oxon. r.n.171

WHITE WYANDOTTE EGGS, 7s. 6d. for 13; White Leghorns, 288-egg strain, same price.—WELCH, Wickham, Hants. r.l.82

1921 HIVES AND APPLIANCES.—Write for list to ANDREWS & CO., Hive Works, 78a, Westgate, Peterborough. Quality the best. Immediate delivery. l.71

BUCKFAST QUEENS are the very best. Descriptive Circular free on application.—BROTHER ADAM, Buckfast Abbey, Devon. r.m.115

ITALIAN QUEENS direct from Italy.—Address, ENRICO PENNA, Bologna, Italy. Price List for 1921 on application. r.k.121

COMMERCIAL BEE-KEEPING.—Adminson's Breeding Hive with B.H.C. remains unsurpassed for commercial breeding and honey production; light, simple, economical, progressive.—ADMINSON, LTD., Benson, Oxon. r.m.120

ADMINSON'S SEMI-COMB.—The latest achievement of scientific bee-keeping and modern engineering. In British standard, 16 in. x 10 in., and shallow sizes, the last with drone cells. Try it for the production of extracted heather honey.—ADMINSON, LTD., Benson, Oxon. r.m.119

ADMINSON'S BEES.—Six-comb Stocks for disposal in rotation between last week in May and mid-June; minimum strength, four combs of brood; guaranteed healthy and worthy of any apiary; price £5 5s. each, carriage paid.—ADMINSON, LTD., Benson, Oxon. r.97

ITALIAN QUEENS, young, fertile, purely mated, disease free; safe arrival guaranteed. Price list on application.—GAETANO PIANA, Castel San Pietro, Emilia, Italy. r.l.83

"W.S." STOCKS at nuclens rate, and Nuclei greatly reduced for 1921.—S. SIMMINS, Queenland, Heathfield, Sussex.

STRICTLY BUSINESS.—Flavine Candy, 6 lbs., 9s., post paid. To make syrup melt one cake in a pint of boiling water. Flavine Candy may be had plain or with peaflour at the same price.—S. H. SMITH, 30, Maid's Causeway, Cambridge. r.n.21

Our Bees and Queens are Second to None. Catalogue free. PEARSON & GALE, Marlborough

Legislation in Other Countries.

Last week we mentioned that legislation for bee diseases has rendered great service to bee-keeping in Canada. An even more striking example of the benefits accruing from such a measure is to be found in New Zealand. The bee-keeping industry in that country was in a very serious condition, was, in fact, in a fair way for dying out altogether, mainly owing to the ravages of disease. Legislation to deal with this state of affairs has put the industry on its legs again, and it is once more flourishing. New Zealand bee-keepers now produce more honey than they need for home consumption, and send a fair quantity of first grade honey to England.

The United States Consul-General, Alfred A. Winslow, of Auckland, New Zealand, reports to his Government at Washington under date February, 1921, as follows:—"There has been a marked increase in the demand for honey from the Dominion, with the result that it has encouraged many to take up the industry. Late reports state that there are 6,400 apiaries in the Dominion, composed of 75,000 colonies of bees, to say nothing of the large number of small bee raisers throughout the Dominion who have not yet registered their hives. The New Zealand Government has promulgated regulations to protect this industry so far as possible from 'foul brood' and any other infection that may interfere with the industry."

We are told by some bee-keepers here that in other countries where legislation is in force it has proved a failure, or worse. If that is the case, we should expect the bee-keepers in those places to be up in arms against legislation and agitating for the repeal of the Act. If any one can tell us of any country where such action has been inaugurated we should be very pleased to hear of it. We do know that in many of those countries where legislation is in force bee-keepers are asking for it to be strengthened; they are asking for more and wider powers, not for the repeal of the Acts. Even the Irish bee-keepers asked last year for the provision of the Bee Diseases Bill introduced by our Ministry of Agriculture to apply to Ireland, because, as we pointed out in our Editorial of March 10, the Irish Act only applies to foul brood.

Bee-keepers in New Zealand have found legislation so helpful for the craft that since first introduced it has been extended, and they have now not simply a Bee Disease Act, but an *Apiary* Act, under which every bee-keeper has to be registered. In the New Zealand *Bee-keepers' Journal* for February, 1921, is an account of fourteen apiarists being proceded against for failing to register their apiaries, in some cases also failing to provide proper hives. Fines varying from 1s. to 40s. and costs were imposed. For all that has been done there, a writer under the name of "Geron," in "Notes on Previous Issues," in New Zealand *Bee Journal* for January, 1921, says: "There are still many matters we badly need regulations to control, so let the gazetting of those we have encourage those responsible for continual agitation of the powers that be to press on the good work. 'In due season ye shall reap if ye faint not.'"

In the same number the Editor says: "Just think what it would feel like to know that when you closed your bees down for the winter there was not (so far as it was reasonably possible to prevent) a diseased hive existing in the district. And if you sit down and think it over, it is quite a possible thing, but it means work for all bee-keepers, and we believe it is just in proportion to the amount of work you personally are willing to put into it that the results will be." The Editor's remarks are just as applicable here as in New Zealand.

The next time anyone is heard declaring that in other countries legislation has been a failure and has tended to increase rather than decrease the incidence of disease, take it for what it is worth, *ask for the name and particulars of any country having legislation in which the bee-keepers are asking for such legislation to be removed*, and do not be misled by those who are opposing legislation here, not for the good of the industry, but to serve their own selfish ends or petty jealousies.

Jottings from Huntingdonshire

"The Rev. E. F. Hemming must look to his laurels"—so says the Editor in a footnote to an article in the JOURNAL a fortnight ago. My laurels! Um! I have looked at them. They are growing nicely in their appointed places, looking very handsome just now. They grow by the gate and around the house—there they are, light green, dark green and variegated. I haven't pruned them. No need. Diligent church decorators ask if they may cut them for Christmas decorations, and I dare not refuse permission. Hence it comes about that they grow from year to year but get no "forrader." But why does the Editor want me to look to them? True, one of my goats took a fancy to one bush and browsed off every leaf before I discovered her loose from her tether; but since, by way of penitence, she gave an extra pint of milk next day I freely forgave her—what, though, are goats to do with the Editor of THE BEE JOURNAL?

What's he getting at? Laurels! Well, the bees looked at them at times and extract all they want from their flowers and leaves, but that's no reason why I should be ordered in such a peremptory fashion to look to them. Does he want a wreath or a garland, or does he mean to infer that I am green, or, more generously, that being a bee-keeper, I should be in winter and summer always clothed and in my right mind? Perhaps he suggests that I should always write of Nature and her glories; but if I do someone writes and asks me to speak occasionally of strains of bees, and when I get off into that channel someone else writes urging me not to forego some references to Nature, and others, too, say, though aged in years yet they are children in bee-keeping, will I not give more "Chats with apis?" Be these things as they may; why should I look to my laurels? They are as safe at Steeple Gidding as Mr. W. Herrod-Hempsall's diamond glasscutter is at Luton or whereever he keeps it, and that's that.

Leaving humour alone for the moment, how wonderfully April came in. The first was a morn of morns. The sun was up betime glowing red like a bowl of blood, a smoky mist hung o'er the earth. By eight o'clock the sun shone in his whiteness, the mist curled up like the smoke from some great sacrifice and the earth was cleansed. At 8.30 the bees came out and in warmth like June had a day of delight. It was past six in the evening when the last bees returned to their hives, which are now bubbling with life. Oh, that inimical drone heard near the hives after such a day! A tone which tells of joy and peace. Please nosema apis, tarsomemus woodi, bacillus alvei, keep away from my apiary lest I should have naught but my laurels to look to.—E. F. HEMMING, Steeple Gidding.

Jottings from Ashdown Forest.

During the cold blast of winter the bees are, or should be, practically at rest, but there is very little rest for those people who interest themselves in bees, and whose main interest is the production of —well—British United Kingdom honey, which can, and should be, unequalled for excellence. Doubtless the enormous quantities of other honey of late years has proved to those that matter (the consumers) that they are likely to have to pay more for it, as doubtless if they do not, there are people distributed over this little world that will.

I will have little to add to what may be described as the vagaries of the situation as given by other contributors.

Re "Isle of Wight" Disease.—The recent disclosures of its being due to a mite may be right, needing the discovery of a remedy, which, to my mind, is already found in the contribution *re* hopelessly affected bees being given a dose of sulphur to finish them, instead they got well. I have had experience of many hives being attempted to be destroyed by putting into them a dose of sulphur by means of a smoker, even to burning the mouth of the hive, but the old-time brimstone pit was a hole dug in the ground, the brimstone well-lighted, the skep put over and earth quickly placed round; that *did* settle 'em, but the putting of brimstone in a smoker and blowing it in, if it does kill, simply murders them. To my mind it may be a question of deciding how little will kill the mites without harming the bees. Though myself I believe that the "Isle of Wight" disease is connected with the blight that in summer time attacks oaks and other things, either comes from the oaks or from the same cause that produces it on the oaks. I have observed it is the most energetic stocks that get it worst—many die getting the stuff. A little is stored, then a period of comparative inaction; young bees hatch out and work, but do little in supers; later, they, on eating later honey, come to the layer of infected store, and then we see the effect. Weaker lots that had got none, or very little, and in the ordinary way would be robbed or starved out, go in and get the remainder of the large store there, survived, and are our present prolific swarmers. Onions, garlic and the like may be the remedy, but my belief and remedy is in another direction. In addi-

tion to my own 37 stocks being wintered, my time is largely devoted to the management of a good many other people's apiaries, either solely or by occasional assistance, over a rather large area, most of which are calculated to have ample natural store till after New Year, after which it will be candy or loaf sugar, according to requirements. I do very little syrup feeding.

Hives.—What has got into them of late years? Everything so excessively decaying. What a lot there is needing to be done, painting and renewing; the war doubtless caused neglect of the old ones, the new ones are very dear and paltry, most will need attention in general; take the bees out and thoroughly renovate.

American hives, that come in a parcel of five practically packed into the spae of one, I have had some two seasons' experience with. They are good stuff, well made, and very cheap; doubtless come to stay. But there are modifications necessary. We must study their methods, and the Americans must study our climate, then perhaps there may be brotherly love.

Aluminium Combs.—I have been curious about and sceptical, have had no experience of them, and hear very little (nothing favourable) from those that have; probably they are a "wash-out."

[This article was in print before the new semi-comb was advertised.—EDS.]

Section Honey.—Myself I go in very little for this, though most of my clients desire their honey in sections, very few of which have been secured for several years. No matter how many on, the bees would persist in swarming, a serious disappointment to those who scrap old and put in new sections with whole sheets of foundation, only to find the bees will not work them year after year, and soil or nibble away the foundation. I usually put a small V-shaped piece of thick foundation and wait till the bees have worked them. The great draw-back of sections is the difference in the quality and flavour of the finished article; one simply cannot send a sample section.

My great belief is in bulk honey extracted from shallow combs and well stirred before bottling, then a sample is a sample of the lot.

Foundation bee-keepers must have, but what failures one has met with of late years; broken, sagged, and jumbled combs, often bees not taking to the foundation at all. One often asks why is it? Generally it is suspected bad wax, but I do not think so, it is the method of making. One of the stepping-stones of my own career as a bee-keeper was when in hospital I received the B.B.J., dated May 15, 1883, containing method of making moulded comb foundation. I resolved to do it, though I was there with valvular disease of the heart from rheumatic fever. I am still alive. I have modified the method and made the greater part of the many hundreds of sheets I have since used, which I have never known to fall down or sag in the hottest weather. It seems to me it is not so much the genuineness of the wax as the method; by that process the wax is moulded in a *liquid* state, whereas the foundation of commerce is rolled out in the *plastic* state, on rollers lubricated with soap, or some other suitable substance. I use the same foundation for brood, shallows, or sections, sections only a small V bit for a guide.

How often, of late years, with flowers abundant, weather fine, all appearance of a honey flow, have the bees appeared idle, till if a little honey was exposed they were not then lazy. What a fine thing it would be for bee-keepers if some silk firm instituted the dredging by aeroplane or other means of the mass of webs spun by spiders or other insects so thickly over the foliage, the presence of which simply upsets the bees so that they will not try to do anything but mope about home. Several times these last two seasons I have taken trips through heather, clover, and other forage, very few bees at work, but on close observation a mass of webs were to be seen; if only a brief thunderstorm comes the bees go with vim. Have other readers seen the same, or is it only in this locality? They can be easily seen on a foggy morning, and at times when the sun shines on them.

Re Vinegar for Bees.—I always understood it to be put in for the particular acid it contains to prevent crystallisation of sugar.

Re Tanging.—I believe it drowns the bees' own particular signalling note, thereby tiring them, but I have known cases when tanging where they seem to go off all the faster, especially this year.

Re Mr. Priee's Lecture.—Some 20 years ago I designed a hive, and have since made a good few, that I think Mr. Price would be satisfied with. So far I have only made them for myself and people for whom I manage bees. They can have as many lifts and supers as required, independent stand; double-walls can be made secure and loaded in a few minutes, having flat roofs, zinc covered, with no nails through it; one serves as a table for others, and shutting down close several can be loaded on top of one another. Not having been in a position to make a lot for sale, I have never put one in any show so far. Any reader may call and see one.

Mr. Price says heather honey cannot be extracted; well I have extracted lots of it. I store it in a small bee-proof greenhouse, the boiler is put on night and day till it and the sunshine have the temperature up to 120 in the shaded greenhouse for preferably two or three hours. It is then a warmish job, but the honey will then slip out and through a flannel strainer like oil, but 110 degrees is no good.

Queenless bees getting lots of honey has been my experience when honey is to be got. A few years ago having what was considered foul brood, May or early June I took away all combs, starting queen and bees on cleaned combs after three days. All combs that had brood in were packed together in a 15-frame hive, two stories high, with a rack of shallow frames (also with brood) on top, with sufficient bees to care for brood and see to rearing a fresh queen. They were left till the young queen was ready. My! what weight, practically all combs full of sealed honey, which were all taken away, extracted, soaked, washed and dried, and were soon in use again. The same applies during the heather flow, if the weather is right.

Re Reply to R. Steven, page 587 (Vol. 48), do bees draw out foundation? I have some I made from some dark wax bought this summer, which I made into moulded foundation. I wondered if the bees would take to the stuff but they seemed to enjoy it, and drew it out a good way, putting clean new wax on about half of the cell, but I believe generally the bees use rolled foundation as a base only.—A. J. Ridley, Horney Common, Uckfield, Sussex.

Jottings.

Acclimatising Italians (p. 46).—My experience with these bees is they compare very favourably in these trying, damp, and cold springs experienced of late years, working early and late. Surely a complete season is sufficient to claim that a colony is "inured to a climate"? While if this is further helped by a judicious cross, or a pure breed from unrelated colonies, this seems no very great claim or doubtful accomplishment. I fail to see why drones from imported mothers should be expected to prove weak. I endeavour to get virgins from the latest imported, mated with a colony unrelated, and home-raised. It is then only a question of drone control. I may be fortunate in having two places to work at.

Treatment (?) *of "Isle of Wight" Disease* (p. 47).—Do I understand your correspondent recommends a supply of weeds to catch or lose the queens? If so, why not cut the weeds and kill the queens? One might at least save the time of hunting. Not much amiss, surely, if one is able to get them up to swarming pitch before discovering disease. Dear, oh dear, what conundrums this "Isle of Wight" has set up for us. Even a new name has been found. (It.) Is this really a cure, and when shall a crawler walk?

Re Norwich Notes and Notions.

I think it would be interesting indeed to have opinions of other bee-keepers on the merits or demerits of other races of bees than our own Britishers, who, from what I can learn, are the only bees that produced honey in this district last season in anything like a reasonable quantity.

Living on the east coast we very often get a cold rain from the sea, and on several occasions last year I picked up a peck of bees from the two pure British-reared Italians and a good few from the first-cross stocks that I have, took them indoors and warmed them back to life.

The only Dutch bees that I ever had any experience with had the "Isle of Wight" or Acarine disease as bad as any stock I ever saw, and were smothered.

My ideal bee, and I think the one that will eventually predominate in this country, is the Carniolan. In 1912 I purchased a pure Carniolan queen and she was a revelation.

I divided the colony up that she was in and gave her twenty standard frames of comb, and then they swarmed before I thought they would (I had other business to attend to). However I caught the swarm, and it *was* a swarm. I had given them a good shower of artificial rain, and that perhaps was what made them stingy, for they were when I went to shake them into a skep.

When opening up for inspection they were no more than houseflies, but on that occasion they let me know how they could sting, and, relying on their previous good behaviour, I was unprepared, and received quite a shock. I also only took one skep, whereas I wanted *two!* I shook more than half into one skep and filled it, and still left a good swarm hanging, so got another skep and shook the rest in it, and stood both on bricks on edge. The queen was secured with the first skepful and the rest left the other skep and clustered in the first, hanging so deep as to touch the ground. When hived the swarm covered fourteen frames closely, and drew out that number of sheets of foundation in one week. They were

splendid honey gatherers, but the first, second, and third crosses were very stingy. What they are like crossed with other than the British bee I don't know. It is a contrast in these days of the Italian bee with their yellow wax and brace combs to the Carniolan with pure white wax, straight, flat-faced combs, and no propolis.

They will stand the sharpest winter, coming from a colder climate than ours, and the only thing that I can find against them is their swarming tendency, which I believe a big hive will overcome. Dequeening is not necessary if the colony is "Demaree'd" when nearly ready to swarm, unless, as I had an instance of last year, the queen is able to get through the excluder easily.

I look after bees for a lady not far from here, and I have great trouble with wax moth, but my efforts to keep the pest down are unavailing, for within a hundred yards are some old ramshackle hives kept by a bee "master" (?) in the hope of enticing a swarm. The combs in these hives are black with age, and were built from starters, so are nearly all drone, and are eaten from end to end by wax moth. This is a case where it is certain legislation would be beneficial. I wonder how many wax moths those five old hives produce in a year?—GEORGE J. CLARKE, Ferndale Apiary, Blythburgh.

Comments.

I am tempted to make a few remarks on what I have lately read in the B.B.J. I lost the first bees I had from Acarine. A neighbouring farmer told me I had neglected to tell of a death in the family. That was true. I asked how was I to tell them. He said I ought to tap the hive and then tell them. I smiled to myself at the superstition. Since then I have found the meaning, as I think, which is that I should not forget the bees in circumstances that takes one's mind away from them, such as a sting to a baby. I look at the hives every day.

Another superstition, I believe, is that one should not take money for swarms. After reading Mr. Flashman's letter, I begin to think there is something in it. There is a limit one should not pass in making money out of bees.

The first lot of bees I had (that was 1917) died, as I said, before Christmas of Acarine disease. The parent stock were supposed to have been cured. So my first hive, the one I so proudly carried home 1½ miles on a wheelbarrow from the station is unused still. Once bitten, I have been dreadfully afraid of I.O.W. in foundation, etc. Surely it is most important for bee-keepers to manufacture their own foundation co-operatively?

At the time I lost my bees I was much bothered with dry rot in the house. Mrs. Willis recently wrote that she medicated her hives with a stuff that had something of the nature of creosote in it. "Dry rot," I think, is caused partly, at least, by insufficiently seasoned timber. Now here is a hint that helps my theory that I.O.W. disease is caused by hives being damp from the wood being insufficiently seasoned. Creosote cures dry rot and also, it seems, wards off I.O.W. Some say a predisposing cause of this disease is that bees are not given the outlet of producing wax for their combs. A check to the habit of producing wax must upset the bees' system, as nature has an obstinate habit of reverberating in its old ruts. Would this wax-making habit tend to congest the air sacs? To meet the difficulty of doing without foundations, I wonder if one had a tin sheet hanging between the frames and attached to a piece of wood that would fill the spaces between frames at the top, would it compel the bees to make their own foundations and combs? The principle of not disturbing the balance of Nature, as is done in parasitism and profiteering, and of working with and not against the habits and instincts of bees has been pleasantly and convincingly brought home to me by Mrs. Willis's splendid articles on "Do Bees Do Nothing Invariably?" I fancy the charm of Mr. Kettle is that he has an instinct how to keep to the balance of Nature, and he never sells his swarms for money. He never bores, as dividend hunters do with their subtle schemes and "work by subterfuge." All diseases are material symptoms of spiritual dissonance. Acarine disease is caused by the spiritual illness of the age, the lust for dividends and more dividends, the loss of the balance of Nature, the selling one's swarm for money. Of course, one must not take the last phrase quite literally. We all like to see our bees give a bumper crop of honey. But there is some instinct of self-restraint, of balance, poise, or what not, in the phrase that is difficult to express in words. Mr. Kettle keeps bees as boys keep pets, because it gives him a chance to "join in the dance" of Nature. Even if we discover the bacteria that causes Acarine disease we do not therefore find what causes the bacteria to act so, nor would a remedy do more than bamboozle the enemy for a time. They get used to old antiseptics. That is a path that has no end. Better study the bees, as Mrs. Willis suggests, and leave alone their diseases.

I had thought of sending a "Ten Com-

mandments of Bees." What if the Editors offered a queen as a prize for the most complete and condensed ten rules for the bees; also ten rules for the bee master? They might be a useful reminder for beginners. One rule I would suggest: Don't sting your bee master (i.e., Editor).

One fault I find, as a beginner, with contributors is that they are not explicit enough. Mr. Ellis does not say what stuff he uses for his spray, nor what syringe; also, I should like to know how Mrs. Willis would introduce queens when one has only three hives, with a population covering only about seven or eight frames of comb now. I would like now to subscribe myself at present as ARFONWR.

Glamorgan Bee-Keepers' Association.

ANNUAL MEETING.

The annual meeting was held March 19, 1921, at the Howard Gardens M.S. School, Cardiff.

Chairman, C. F. Saunders, Esq., J.P., and among those present were Messrs. F. Gravil, W. Dyche, B.A., Mr. and Mrs. W. O. Jones, Mr. and Mrs. C. J. Wiltshire, B.Sc. (Bargoed), Mr. and Mrs. W. Morgan, Messrs. D. W. Walters, B.Sc. (Barry), D. Davies, B.A., Fred Thomas (Briton Ferry), R. James, W. Curtis, C. F. Davies, C. Godfrey, W. J. King, J. Bain, J. R. Davies, Ivor Williams, J. Skelding (Treforest) and W. J. Wiltshire.

The minutes of the last annual meeting were read and adopted.

In moving the adoption of the report and balance-sheet the Chairman remarked that at the present time he could not claim to be a bee-keeper—but a bee-loser. He said that the profits in bee-keeping as in other industries depended upon regularly doing what ought to be done at the proper time. He was very glad to see so many present, and congratulated the Association on the useful work done, as shown in the annual report.

Mr. D. Davies, B.A., seconded, and Mr. Gravil, in supporting, appealed to those who had bees to help those who had lost all. The last season he considered was the most disastrous in his memory, and he had kept bees for some years before he became a member of the Glamorganshire B.K.A. in 1887.

Mr. Ivor Williams proposed a vote of thanks to the officers and committee for their services during the past year. Mr. King seconded, and Mr. D. Davies, in supporting, referred to the loss the Association would sustain by the retirement of the Secretary, Mr. W. J. Wiltshire, who had served them so faithfully for eleven years, and he felt sure that every member wished him long life and happiness in the future.

Mr. Wiltshire feelingly responded, and promised to pay them a visit now and again.

The Right Hon. the Earl of Plymouth was re-elected president, the former vice-presidents were re-elected, with the addition of Herbert Lewis, Esq., and C. B. Pardoe, Esq.

On the proposition of Mr. W. J. Wiltshire, seconded by Mr. Dyche, Mr. Charles F. Davies, 5, Borstal Avenue, Cardiff, was unanimously appointed secretary.

Mr. F. Gravil and Mr. John Jenkins were appointed treasurer and auditor respectively. The committee were re-elected with the exception of Mr. Yeo. Mr. Wiltshire was elected to fill the vacancy thus created.

Messrs. Gravil and Spiller were re-elected representatives to the B.B.K.A., and Mr. Spiller also elected member of the Glamorganshire Chamber of Agriculture.

Mr. Walters initiated a discussion on the desirability of a course in bee-keeping at the Glamorgan Summer School, Barry, and Mr. Spiller advocated steps being taken to obtain that end.

Reference to Re-stocking: Mr. Skelding could not promise any nuclei, and Mr. W. O. Jones said he hoped to be able to redeem his promise to supply six.

A hearty vote of thanks was passed to the Chairman for presiding.

The Chairman, responding, referred to the £224,201 worth of honey imported during 1920, and said he thought more ought to be done in this country to secure the provision of our own honey. He then cordially invited all present to join him at tea.

(Communicated.)

Surrey Bee-Keepers' Association.

ANNUAL MEETING.

The annual general meeting of the above Association was held on Saturday, March 19th, at the Guildhall, Guildford, by kind invitation of the Mayor, Alderman G. W. Franks, who presided.

The annual report showed that considerable progress has been made by the Association during the past year, there being an increase in membership of nearly 200, bringing the total number of members up to 500.

A vote of thanks was passed to the Surrey Education Committee for the gratuitous provision of lectures and use of rooms in various parts of the county, which has been much appreciated by bee-keepers, and the meetings have been very well attended. Mr. Seth Smith proposed a vote of thanks to the President, Sir Jeremiah Coleman, for the Challenge Trophy which he has presented for competition at the next show. The date and place of this event was left to the Executive Council to decide, and it is hoped that there will be an even larger number of entries than last year, and that the show will be a financial success.

The retiring Council were duly thanked, and on the proposal of Mr. Overton the following were elected to serve for the coming year: Lt.-Col. J. A. C. Younger, Miss Knowles, General Wilkinson, Messrs. R. C. Blundell, F. M. Falshaw, W. Fawcett, W. E. Hamlin, J. Kenrick, J. W. Lewis, W. T. Palmer, W. T. Patrick, J.P., W. F. Reid, A. Seth Simth, E. J. Stevenson, E. G. Waldock, and A. Watkin.

After the business had been dealt with, Miss Knowles, of the Heatherlands Bee Farm, Thursley, gave a short demonstration

on making up frames and sections. The members present showed great interest in the various tools used, and at the end the Mayor moved a vote of thanks, which was carried unanimously. The meeting was then closed with a vote of thanks to the Mayor for presiding and for the use of the Guildhall.

By the invitation of the Mayoress, the members afterwards partook of a most excellent tea, which was much enjoyed, and, before leaving, Mr. Seth Smith returned thanks on behalf of all present to the Mayor and Mayoress for their kind hospitality.

D. Y. KNOWLES.

Bucks County Bee-Keepers' Association.

ANNUAL MEETING.

The annual meeting of the above Association was held at the Technical Institute, High Wycombe, on Saturday, March 12.

In the absence of the president, Mr. W. Winterton, who wrote regretting his inability to attend, Mr. G. W. Watkins was voted into the chair.

The report showed that there were now 303 members, and that the increase was mainly in the north of the county, for which the Association was indebted to Mr. A. E. Warren, thus somewhat reducing the difference in numbers between the members south of Aylesbury and those north of Aylesbury. The balance-sheet also showed a substantial balance in hand. The Chairman stated that it had been decided by the committee that the experts should pay two visits instead of one, as in last year, notwithstanding that their remuneration had been increased. It was stated that the re-stocking scheme was being carried forward. A discussion ensued as to the form of the honey labels. The old stock was exhausted, and at present prices it would be too expensive to reprint. Miss Hay and Mr. Pigau kindly promised to procure drawings of new labels. Mr. Winterton was re-elected president, and the vice-presidents, committee and other officials were duly re-elected.

A meeting, primarily for members in North Bucks will be held at Bletchley in May, of which notice will be sent to all members in North Bucks.

After the meeting the Rev. T. E. Peters gave an interesting lecture on "The Spring Treatment of Bees," which was followed by an animated discussion, in which nearly all the members joined, and he was warmly thanked for his address.

(*Communicated.*)

Kingston and District Bee-Keepers Association.

ANNUAL MEETING.

The annual general meeting of the above was held in the Kingston-on-Thames Public Library, on Wednesday, March 23rd, 1921, when Alderman Sir Charles Burge, F.I.C., J.P., presided.

The minutes of the last general meeting were confirmed, and the report and balance-sheet for the past year were adopted. The balance-sheet showed the very satisfactory balance of £10 15s. 9d. in the hands of the treasurer. The retiring officers and committee were thanked for their services. Mr. R. T. Lamb was elected treasurer, and Mr. B. Carter, Public Library, Kingston-on-Thames, secretary.

The matter of affiliation with the Surrey Bee-Keepers' Association was referred to the committee to meet on March 30th.

The Hon. Secretary moved the following resolution :—

"That this annual meeting of the Kingston and District Bee-Keepers' Association deeply regrets the postponement by the Government of the Bee Diseases Bill, and trusts that it will be brought forward again at the earliest opportunity. In the opinion of this meeting the need for legislation is urgent."

Copies of this resolution to be sent to the Board of Agriculture and the local Members of Parliament.

The resolution was warmly supported, and after several forcible speeches had been delivered, was carried unanimously.

(*Communicated.*)

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Aluminium Extractor.

[10,419] The idea of an aluminium extractor is an excellent one. Honey being if anything slightly acid should have no action whatever on the metal. Aluminium is not attacked by the strongest acids, but it will not stand alkalies; therefore the use of soda, or similar alkalies, should be avoided when cleaning.

Rolled sheet aluminium is quite strong, but it is difficult to solder, and all joints would be better riveted and caulked. I would suggest the cage be made of strips of sheet of an extra thickness, but girder fashion. Cast aluminium is not so strong as wrought, and is apt to be more or less spongy in texture.

When not in use aluminium vessels are better kept perfectly dry and well polished. The fine grey ash from an ordinary coal (not wood) fire makes an excellent polishing medium when applied by means of a damp cloth.

These notes are the result of some years of experience gained in the use, on a manufacturing scale, of aluminium chemical plant. C. HARRISON. Hayle, Cornwall.

January 29, 1921.

A Beginner's Good Season in 1920.

[10,420] I see in the advertisement columns of THE BRITISH BEE JOURNAL that the year 1920 is described as one of the worst years for bee-keepers on record. It may therefore be some encouragement to beginners to know actual results obtained in that year by a person who in May last was absolutely ignorant of bee-keeping.

I purchased then from a Hampshire apiarist—Miss Bullock, of Boldre, Lymington—for £4 a stock of Italians. This developed by August into three stocks There was only one swarm, which was gathered. A careful check showed that 148 lb. of extracted honey has been taken. But the three hives were left with ten combs, each full of brood and stores, and all are now flourishing. I shall be glad if these experiences of a "Tenderfoot" prevent other beginners being frightened out of a fascinating and not unprofitable pursuit.—S. H. GODFREY (Lieut.-Col.).

Too Many Drones.

[10,421] Can the cause of a preponderance of drones be in any way attributed to some natural weakness existing in the reproductive organs of the queen bee brought about by degenerated stock and the trouble assisted by adverse climatic conditions? Dealing with the generation of animals, Hoffman was of opinion that when the male was the stronger a preponderance of males would be created, and *vice versâ*. But this theory applied to the queen bee does not make one much wiser.—F. M.

Swarming and Other Notes.

[10,422] Referring to letter of E. H. Matthews (10387), February 3, it seems to me that had most bee-keepers in his district re-queened all stocks yearly they would probably have had more honey and little swarming.

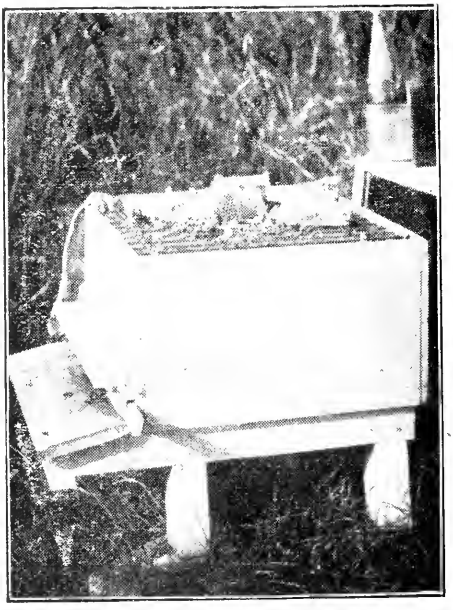
This is my yearly practice, and I rarely get a swarm. But last year I had 350 lbs. honey from six stocks (my total); these are pure Italians.

Re Mr. Joseph C. Wood's letter, I do not think we should have had many black or any other stocks in this country now if it had not been for imported queens, etc. I, for one, do not find any weakness in stocks from imported queens.

Re J. M. Ellis, of Gretna, Carlisle, and his semi-appeal to the Cambridge Bee-keepers, Mr. S. H. Smith, of Maid's Causeway, Cambridge, is always open to and freely gives hints and wrinkles of the Cambridge expert's so-called secrets. Why does not Mr. Ellis write him for information?—W. LONNON.

Bees Building Comb in Winter.

[10,423] I herewith enclose you a photograph taken on February 24, 1921, at 12.30 p.m., of a stock of bees which have been building comb in winter. I give you my notes of stock under my charge:—October 23-30: This stock had not one cell of sealed food ready for wintering, therefore I put nine 1-lb. cakes of pink candy on the top of frames, and closed them up. Watching the weather, there came a chance to open them on December 27, 1920, and found candy nearly used up within two small finger lengths. I therefore put on nine more cakes of candy, and closed up again till January 29, 1921. Then I found to my surprise they had used up



COMB BUILT IN WINTER.

most of the candy, built new comb, converted the candy into syrup, stored and sealed it. Around brood nest on three combs was capped brood. After cutting off combs from top of frames, similar to enclosed photograph, I replenished candy and left them again till February 24, 1921, and since January 29, as may be seen by picture, candy was consumed, and new comb built in just over three weeks. This, I think, is a record, and leads me to say, "give candy its due." February 24 last capped brood and eggs extended to 10 in. on two combs, and the outside of these the bees were making haste for the queen to extend the brood nest, having heaps of pollen already in the cells, a most pleasing sight so early in the season.—T. HAMMOND, Great Gotham, Essex.—March 6, 1921.

The Best Bee.

[10,424] Some interesting correspondence has lately appeared in the B.B.J. on the relative merits of native and foreign bees, and particularly as regards the Italian bee, whether home-bred strains or those from Italy or the U.S.A. are to be preferred.

In the discussion it seems to me that certain considerations have been over-emphasised and others equally, or more, important have scarcely been mentioned. As a bee-keeper of twenty years' experience, but unable to have any bees of my own for the last three years, and now about to make a fresh start, I have to determine what strain of bee is best to adopt, and should like to give my conclusions and the considerations which lead up to them. I have previously kept only natives and Dutch, and am not in any way interested in the sale of bees and queens or appliances.

I need not enumerate all the desirable qualities which we look for in a good strain of bees, but in the forefront I would place *non-swarming* and *seasonable breeding*. As regards hardiness and freedom from disease too much stress can, and has been, I think, laid on climate. Many plants and animals flourish when far removed from their native land. Why not bees? But we *do* want bees that *breed at the right time*, instead of raising lots of brood only to consume stores after the honey season is over.

The Rev. E. F. Hemming is quite right about Dutch bees being wonderful breeders late in the season. They take no notice of the weather at all. My Dutch stocks reared enormous quantities of brood during six weeks of July and August one year when it rained heavily and almost continuously every day. They did not swarm then (the weather made that impossible), but they had done plenty of it earlier. Result: not a drop of surplus honey, no winter stores, but enormously strong stocks by September that would have made my fortune earlier in the year!

After my experience with Dutch I fight shy of Carniolans, as they, too, are noted swarmers, though I am attracted by their gentleness, beautiful comb-work, and the small amount of propolis they are said to use.

Natives.—Logically, the native should be best suited to the country of its origin. Our own bee certainly had many good points, and if carefully selected and improved by breeding, *without* intermixture of foreign blood, would probably be the best of all. But most of our best strains perished from, I suppose I must call it, *Acarine* disease. Nobody can tell the difference between a native and a Dutch cross, so how am I to know if I am buying natives or not? After all, the importation of Italian and Dutch bees, is there such a thing as a native bee in this country? As I will not tolerate Dutch blood I must reluctantly abandon the native (?) bee.

The Italian bee is not greatly addicted to swarming, and is highly favoured both here and in other countries. It deserves a trial. Where shall I be most likely to get the best Italians? I answer, from the U.S.A. Not for climatic reasons, but because the Americans are pioneers in modern queen-breeding, and early showed a preference for the Italian bee. British and Italian methods may be just as good nowadays, but the Americans have been breeding Italian bees on scientific principles longer than anyone else, and if anybody possesses a first-rate strain they ought to.

One other bee seems worth a trial—the Swiss. Much appears to have been done in this little country to encourage scientific bee-breeding, and to keep the two native races separate and free from foreign blood. By a system of selective mating at high altitudes the Swiss are said to have produced a bee that does not swarm at all. Surely worth a trial, at any rate.

In restarting, by the way, I shall not fuss with nuclei, or pay fancy prices for them. Just a few swarms of cheap and healthy bees from a friend near by, whom I helped to start a few years back—Dutch bees, so they will be sure to swarm!—then I can re-queen later with the desired strain.—L. Illingworth.

Pasture for Bees.

[10,425] I should be glad if you could inform me the best pasture seed to sow for bees. I have about quarter acre which I intend planting up with lucerne for hay for pony, thinking it would also be very beneficial to my bees; but on reading through one of the well-known books on bee-keeping I find it stated that this crop is practically useless for bees. I believe this view is *not* generally held, and should like to know if anybody has had a definite experience as regards thereto.

Perhaps you could suggest an alternative crop which would also produce good hay.—J. P. Cheyne.

[Our correspondent's query is rather out of our province, and more particulars as to kind of soil and subsoil, etc., are needed. Possibly some of our readers who are engaged in farming will give the information asked for.—Eds.]

Notices to Correspondents

H. P. (Devon).—*Disinfecting hives.*—It is possible to effectively disinfect hives if the instructions we have many times given in this column are followed out. The best method is to scorch out the inside with a painter's lamp, and wash all other parts with disinfectant and water. When dry, give the outside one or two coats of paint. If a painter's lamp is not available, wash the inside with a strong solution of disinfectant and water.

S. G. (Shrewsbury).—*Coverings for bees.*—Do not remove any of the coverings at present. The bees are breeding freely, and nights are often very cold. It would be a pity to have the brood chilled because insufficient wrapping had caused the bees to cluster close together, and leave some young larvæ exposed to chill. Keep feeding the bees until they can get food from the fruit bloom and other flowers.

M. M. I. (Dorset).—*Transferring bees from skep to frame hive.*—Fit the frames with full sheets of worker foundation, place them in the brood box, and cover the top bars with a sheet of American cloth or other material, in the centre of which cut a hole about 3 in. less in diameter than the bottom of the skep. Place the prepared hive on the stand occupied by the skep, lift the latter from its floor-board, and set above the frames. Pack round the bottom of the skep with warm coverings, so as to make the lower hive as warm as possible. When eggs and larvæ are found in the lower combs, remove the skep and ascertain if the queen is also on them. If she cannot be found you must "drive" the skep until she is secured and placed in the new brood box. A queen excluder is then put over the top bars, and the skep replaced; in about 22 days all the brood in the skep will have emerged from the cells, and it may then be removed entirely, leaving the bees established in the new hive. The skep should be placed over the frames at the end of April or beginning of May, when it is beginning to become crowded with bees. They might possibly work down now, but it must be done at once. They will, of course, use the entrance to the frame hive, and have to travel through it up to the skep.

J. S. G. (S. Shields).—*Removing heather honey from combs.*—It would be very difficult to remove the honey without damaging the comb. If you bruise or scratch the capping, doing a little at intervals, the bees will remove the honey.

F. F. T. (Beverley).—*Using "Crawler Trap."*—This is an appliance designed by Dr. J. Rennie. We hope to be able to give an illustration of it in our Novelties column shortly. Your suggestion that hives should be set well above ground and the herbage kept short to prevent crawlers returning to the hives is a good one. The use of disinfectants round the hives is also a good plan.

J. R. J. (Essex).—*Creosote for hives.*—If you did not plane the wood it will absorb a lot of paint, so in your case it may be better to use creosote, though we very much prefer paint. There is no need to use lime-wash, but if you do wish to make the hives a lighter colour, use Hall's or other distemper. Lime-wash is too apt to rub off. You could use the chicken house as a shelter for beehives. We should take out the whole of the front, but leave the wooden floor in; also, provide ventilation at the back to prevent the place becoming too hot during the summer.

J. E. (Carm.).—*Using infected combs.*—It is safer to destroy combs infected with "I.O.W." disease. You may disinfect them with sulphur fumes.

C. J. B. (Wilts.).—It will be quite safe to use combs containing a little mildewed pollen without any treatment. There is no book of honey recipes published, but you will find a number of recipes in "Producing, Preparing, Exhibiting, and Judging Bee Produce," and in "The A.B.C. and X.Y.Z of Bee-Keeping."

Bee Lover (Mon.).—(1) Combs could be disinfected with sulphur fumes. Put them in an air-tight box, and burn a sulphur candle in it. (2) As soon as the skep is becoming crowded with bees. (3) Depends on the strength of the colony. It will probably be better to reduce to one brood chamber for the present. (4) Put the extra chamber below as soon as the bees need more room. (5) It depends upon what is causing the crawling. It may be due to weakness caused by want of food, or the crawlers may be old and worn out bees. The remedy for the first condition is obvious; the second will disappear in time. If due to disease, collect and burn all crawlers, if possible, and sprinkle the ground at intervals with quick-lime or disinfectant, and keep the hive supplied with naphthaline and Apicure.

The "Demaree" plan.—Just before the colony is ready to swarm put all the brood except two combs in a second brood box over a queen excluder, leaving the queen below with the two combs of brood and eight frames of foundation. Cut out all queen cells, and look through the top combs eight or nine days after, and again cut out all queen cells. As the young bees emerge the combs will be used by the bees for storing honey. Other supers must be added above the second storey as needed.

Suspected Disease.

J. H. R. (Cardiff).—The bees were suffering from Acarine disease.

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ½in., or 5s. per inch.*

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Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

BEE HIVES.—Two Taylor's W.B.C., practically new, 35s. each; strong Stands, 5s. 6d. Other Appliances; bargain.—GREGORY, Whitchurch, Aylesbury. 0.1

ITALIAN.—Healthy Swarms, 40s.; second Swarms, 30s.; disease-resisting strain; package returnable. Stamp reply.—CADMAN, Codsall Wood, Wolverhampton. 0.3

FOR SALE, seven strong Stocks Hybrid Bees on wired standard frames, ready at once, price £3 10s. each. Full particulars, stamp.—MR. H., Lurgashall, Petworth, Sussex. 0.2

BEE GARDEN FAVOURITES.—Plant now American Sweet Clover and Phacelia, 6d. packets; Willow Herb, twelve 2s. 6d.—BOWEN, Apiaries, Cheltenham. 0.4

GEARED EXTRACTOR, by Meadows, good condition, £2 5s.—BOWEN, Apiaries, Cheltenham. 0.5

WANTED, at once, an Italian Queen.—JONAS, Whyteleafe, Surrey. 0.8

WANTED, Conqueror Hive, new or second-hand. State price.—Box 19, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. o.9

30 STRONG, healthy Italian Stocks, £5 each; 25 English Blacks, £4 each; April delivery.—YOUNG, 42, James Street, Cambridge. r.o.11

PURE LIGHT CAMBRIDGE HONEY, extra fine quality, 13-lb. tins, 17s. 6d.; 28-lb. tins, 36s. 6d.; carriage paid; sample 4d.—YOUNG, 42, James Street, Cambridge. r.o.12

FOR SALE, two Stocks Bees in Taylor's W.B.C. Hives, healthy, sundry Accessories.—Apply, MRS. CUNDALL, Jordan's Village, near Beaconsfield. o.14

FOR SALE, four W.B.C. Hives complete, one Special Hive for section working, a Geared Extractor practically new, various fitted Section Racks, two Travelling Boxes, Drawn-out Comb, the whole in excellent condition; £15 the lot. Can be seen by appointment at Merstham, Surrey.—Box 14, B.B.J. Office, 23, Bedford Street, W.C.2. o.15

HIVE OF BEES wanted in exchange, by mutual agreement, for "Croad" Langshan Cock (1919) and three Pullets, or sell for fair offer; excellent stock; Miss Croad's direct.—WEAVER ("Croad" Langshan Club Judge), 25, Napier Road, Wembley. o.16

SELL, Observatory Hive, three frames, four sections, cheap.—51, Lower Mortlake Road, Richmond, Surrey. o.17

CASH OFFERS for 5 vols. BEE JOURNAL, 20-24, 7 vols. RECORD, 8-14, publishers' covers, good condition; "The Bees," Dr. Evans, 1806, 2 vols., Huber. Stamp for reply. Deposit.—WILLIAMS, Smorrall Lane, Bedworth. o.19

FOR SALE, Nanny Goat, just kidded and in full milk, £4.—W. HERROD-HEMPSALL, Old Bedford Road, Luton, Beds. o.22

WANTED, for a six months' engagement, an experienced Bee-keeper to take entire charge of a large apiary and teach pupils; not afraid of work; lady for preference.—State salary required and give references to Box 18, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. o.23

FOR SALE, two Hives, one fitted eight frames and foundation, four section racks, two filled sections; one Zinc Queen Excluder; 24 Tin Separators; 52 new Sections; 22 Sheets Foundation; one very superior Hive, ¾ wood, to take 12 frames. No disease. No reasonable offer refused.—BOCKING, 5, Mayfield Road, Wimbledon, S.W.19. o.24

THREE strong, healthy Stocks Hybrids for Sale, room wanted, £4 each, or nearest offer.—ROUND, 38, Arngask Road, Catford, S.E.6. o.27

TEN 6-frame Stocks Italian Bees, delivery between May 25 and June 6, guaranteed healthy, 60s.—ENNEVER, Oak Avenue, Enfield. o.30

FOR SALE, small Apiary, consisting of three good, healthy Italian Stocks, 1920 Queens, three W.B.C. Hives, nine supers of partly-drawn combs, Skep, Extractor, Ripener, Uncapping Knife, Smoker, three Feeders, four Queen Excluders, one Porter Escape Board; satisfaction and safe arrival guaranteed; reason for sale, owner leaving; price £24, carriage paid.—Box No. 16, B.B.J. Office, 23, Bedford Street, Strand, W.C.2 n.99

BEE-KEEPING TUITION for Ladies in Apiary. Short or long courses, as required.—MISSES PALING & PILLANS, Golden Square, Henfield, Sussex. n.92

THE MISSES COATES, breeders of White Wyandottes.—Sittings of Eggs, 12s. 6d.; Chicks double. Pedigrees given.—The Broadheath, Presteigne. n.107

FIRST CLASS EXPERT desires to teach wounded and neurasthenic soldiers Scientific Bee-keeping; large practical experience in establishing and running apiaries.—Box 15, BRITISH BEE JOURNAL Office 23, Bedford Street, Strand, W.C.2. n.o8

FOR SALE, three Stocks of Bees in new W.B.C. Hives, healthy, one spare Hive and Accessories. Offers.—BAKER, 20, Quintin Avenue, Merton Park, S.W.20. n.75

WANTED, healthy Swarms, May-June next; boxes provided.—Send full particulars and price, Box 13, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. r.n.39

SEVERAL Stocks of Bees, Italian Hybrids, £4 10s.; guaranteed strong and healthy; box 10s. extra, returnable.—REV. COOPER, 62, Park Hill, Carshalton r.n.77

COMPLETE MODERN APIARY FOR SALE.—30 strong Stocks, 37 splendid Hives, and a large quantity of Sundry Appliances in splendid condition, property of gentleman giving up bees through ill-health. Prices moderate; delivery early April. Lists free. Order now.—PEARSON & GALE, Marlborough. n.37

BEE-KEEPING.—Correspondence Course. Practical and theoretical study. Stamp.—MISS PALING, Golden Square, Henfield, Sussex. r.m.89

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1½d. per word.

BEES AND QUEENS FOR 1921.—Send for our Catalogue, free on application.—PEARSON & GALE, Marlborough. r.n.174

MAY DELIVERY.—From the Enrico Bozzalla Apiaries, Crevacuore, Italy. 3-frame Nuclei, British standard, £3 10s. each, carriage paid, boxes free, 1921 Queens.—S. H. SMITH, 30, Maid's Causeway, Cambridge. n.78

BOWEN'S 1921 SPECIALITIES.—Distinctive goods; quick despatch. Booklet free.—BOWEN, Bee Goods Depôt, Cheltenham. o.6

HOT SUMMER PREDICTED.—Book now for early crop. Superb colonies available.—BOWEN, Queen Breeder, Cheltenham. o.7

STRICTLY BUSINESS.—A Japanned Sprayer, 6s.; one dozen Flavine Powders, 1s.; "Let the Bees Tell You," 2s. 6d.; all post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. r.o.18

SWARMS, May, June, Dutch, guaranteed healthy, 8s. 6d. per lb. (always buy by weight). Orders in rotation. Note extract from letter received: "Up to the time of the introduction of these Dutch bees our average yield per hive was not more than half of the record yield given by these Dutch bees."—WOOD, Colewood Apiary, New Road, Mitcham, Surrey. r.o.21

ITALIAN HYBRIDS.—Nuclei, 3-6 frames, from £2 2s., carriage paid; delivery early June; reliable strain; no disease.—HOSEGOOD, 26, Purley Park Road, Purley, Surrey. r.o.25

CAMBS. ABBEY STRAIN ITALIAN BEES.—Stocks on 8 frames, 1921 Italian Queens, £5 5s.; May delivery; box 10s., returnable.—J. H. DOGGETT, Abbey Lodge, Cambridge. o.10

1921 PURE FERTILE ITALIAN QUEENS, direct from Abbé Warré, France, hardy, prolific, and disease resisting, 9s. each, May/June delivery.—ELLIOTT, "Westfield," Kelvin Road, Ipswich. o.13

DORSET BEE-KEEPERS' ASSOCIATION.—A limited number of 3-frame Nuclei of pure Italian and Hybrids can be supplied during the months of May and June at £2 per nuclei to members and £2 5s. to non-members; deposit on boxes 10s., to be refunded if returned in seven days. Nuclei sent out in rotation of booking. Inspection of Apiary invited.—Orders should be sent to E. H. GARRETT, Holmdale Broadstone, Dorset. o.20

BALLANTYNE FOR BEE-HIVES, 161, Trongate, Glasgow.—One type only, made to jigs, standardised and interchangeable. Patented inner wall unit construction makes the hive convertible at any time for standard, commercial and deep brood frames, the last either 11¾ in., 11½ in., or 12 in. deep. Prices of standard equipment include zinc covered roof and ventilated floor stand. Particulars post free. o.26

DUTCH BEES, 4-frame Nuclei, £2 15s.; Italians, £2 15s.; splendid cross of Dutch-Italian Hybrids, £3 3s.; May and June; carriage paid; cash with orders. You cannot buy better bees. Many letters from well-satisfied customers for previous years.—SEALE, Ashley Cottage, Oatlands Drive, Walton-on-Thames, Surrey. o.28

ITALIAN NUCLEI, bred from Italy's best, hardy, splendid workers, three frames, young fertile Queen, 35s.—"A. B.," BEE JOURNAL Office, 23, Bedford Street, Strand, London, W.C.2. r.o.29

"THE BEE WORLD."—A very large issue, comprising seven numbers, with many contributions from leading British bee-keepers and international apiarists of fame, and profusely illustrated, will appear about mid-April. Future numbers will be published mid-monthly. Only 5s. 6d. will bring to you, post free, this big number, which we feel confident will win your admiration.—THE APIS CLUB, Benson, Oxon. o.31

HOW IS THIS?—"I still have the original queen which came in the nucleus from you in 1919. She has at the present time brood in seven combs; also the two other stocks (increase from her) are in a very forward condition, notwithstanding the fact that they were *not* fed at all during the past season, while my other stocks were fed practically right through. I am more than satisfied with them, and I intend to re-queen my other stocks with virgins from your original queen. Wishing you every success, and be sure I shall recommend your bees wherever I can."—E. J. G., Oswestry, April 2, 1921. An unsolicited testimonial, which is the *rule* for *Adminson's Bees*. —ADMINSON, LTD., Benson, Oxon. r.o.32

THE MOTHER QUEEN IS THE LIFE CENTRE OF THE COLONY.—No Apiarist worthy of the name would consider a commanding price too high for a first-class *Queen*.—ADMINSON, LTD., Benson, Oxon. r.o.33

"THE BEE WORLD"—*The "winged" paper that "circulates."*—Commencing the third volume (June, 1921) copies *in bulk* (minimum, one dozen) can be supplied at no more than 6d. per copy, post free, to the Secretary of any Association affiliated to the *Apis Club* (affiliation fee, one guinea per annum) for distribution to his members, each of whom can thus get the paper from his Association at no more than 7s. 6d., post free, per annum (a *discount* of 3s.). By arrangement with the B.B.J. Office individual regular subscribers can obtain *both* papers, commencing June, 1921, at £1. Are you availing yourself of one of these sporting offers?—THE APIS CLUB, Benson, Oxon. r.o.34

"THE BEE WORLD."—*The paper that is read, re-read, and treasured.* Will it not appeal to you? Subscription from June, 1921, 10s. 6d. per annum, post free.—Publishers, THE APIS CLUB, Benson, Oxon. r.o.36

"THE BEE WORLD."—The Manager regrets that back issues are out of print. Non-subscribers can obtain *future* numbers (*mid-monthly*) through their newsagents or through any member of the trade at 9d. per copy, or 10½d. post free. To avoid disappointment order your copy *well in advance*, or enrich your library by a *permanent* subscription. *You will never lose*, when the demand for earlier issues at a good price still remains and cannot be met. r.o.35

"THE APIS CLUB."—If you have a live interest in bee culture as a science and a craft, you should join THE APIS CLUB. Membership fee, 10s. 6d. per annum, and includes the free delivery of "THE BEE WORLD" as published.—For advantages of membership write to the Secretary, THE APIS CLUB, Benson, Oxon. r.o.37

BUY LEE'S UTILITY BEES to ensure a crop of surplus honey for 1921. 4-frame Nuclei, 50s.; 6-frame Stocks, 70s., May/June delivery.—J. H. LEE, "Little Bowden Apiary," Burgess Hill, Sussex. r.n.93

HONEY FOR BEE FEEDING.—Finest West Indian, case of one 56-lb. tin, 49s. 9d.; two 56-lb. tins, 82s. 6d.; four 7-lb. tins, 29s. 6d.; Australian, one 60-lb. tin, 46s. 6d.; carriage paid 100 miles.—LONDON TRADING AGENCY, 32, St. Mary Axe, E.C.3. n.108

ITALIAN NUCLEI.—Can book a limited number June delivery (subject to weather), 3 frames, 35s.; 4 frames, 45s., carriage paid; 10s. deposit on box, returnable (Simmins' strain); guaranteed healthy.—HOWLETT, Sylvabelle, Tring. n.91

PURE imported Carniolan Alpine Queens, resist foul brood and severe winters, best honey gatherers. Order one; you will want more. List free.—B. WOODLEY, Thorne, near Doncaster. r.n.102

YOUR SUREST SAFEGUARD against disease—Atkinson's fine Italian strain.—Bee Park, Fakenham. r.n.109

8S. ITALIAN 1921 fertiles, May; 8s. 6d., April.—ATKINSON, Fakenham. r.n.110

QUEENS, QUEENS, QUEENS.—Pure Italian; none better.—ATKINSON, Fakenham. r.n.111

QUEEN strain counts, price too.—Write ATKINSON, Fakenham; secure both. r.n.112

"RESERVE 30 Queens for this season's work. Your Italians are 'it.'—S. C. L." Thanks S. C. L., I will.—ATKINSON, Fakenham. r.n.113

BUCKINGHAM BROS., Metal and Wire Workers, Warwick Road, Luton.—Try our Swarm Catcher, 4s. 3d. Collapsible Galvanised Chicken Runs, will not rust, made in four parts. 8s. 6d., carriage forward. r.n.114

UNSURPASSED IN VALUE.—To popularise the new method of scientific bee-keeping, *Adminson's Semi-comb* is sold at almost cost price.—ADMINSON, LTD., Benson, Oxon. n.79

BREEDER QUEENS: THE FOUNDATION OF SUPREMACY.—A limited number of Adminson's renowned *Breeder Queens* (pure Carniolans, Italians and Dutch, guaranteed about one year old) available in rotation during June and July for commercial breeders and research students; price per Queen with one comb nucleus of her progeny, £2 10s., carriage paid. A unique speciality and value.—ADMINSON, LTD., Benson, Oxon. r.n.53

BOOK NOW!—I still have a few Stocks for disposal. Pure Italians on 8 frames, £5. I make a speciality of 3-frame Nuclei, and can strongly recommend them as the very best value, £2 10s. Disease free. Cash with order.—A. WILKINSON, Farnham, Saxmundham, Suffolk. r.n.57

Seasonable Hints.

Owing to the abnormal weather conditions, bees are, generally speaking, in a forward condition, and the novice is somewhat puzzled as to what steps to take. In those districts where there is an abundance of fruit bloom, feeding will not be necessary so long as the weather is favourable for the bees to fly. If not already done, stocks should be examined, and a note as to their condition made. It is advisable to "spring clean" the hives at the same time. A few stocks will be found with an abundance of food, others with a moderate amount, and others with only freshly-gathered honey in the combs and no reserves. Spring feeding must be done with discretion. So much has been written about spring stimulation, that as soon as April is in many novices at once commence to feed every stock, regardless of its condition. Feeding in spring serves two purposes—one is, it keeps the bees from perishing from hunger, the other, it causes the bees to stimulate the queen to lay to the utmost limit, and that limit is not the capacity of the queen for producing eggs, but is set by the number of bees available to keep the resultant brood warm. The aim now is not, as in the autumn, to get the combs stored with food, *but to produce bees, so that there is a strong working force when the main honey flow comes.*

A very little reflection will show that a cell full of honey or syrup cannot be used as a cradle for a bee, and if combs are choked up with food the colony cannot increase in numbers as it should, owing to the limited space available for breeding purposes. Therefore to feed a stock with an already well-stored larder is not only unnecessary, but a disadvantage. Under those conditions it may be an advantage to remove a comb of stores and give it to a stock needing food: an empty comb should be given in its place. Bruise some of the cappings on it before placing in the other hive, and also the cappings of the stores for the width of three or four cells round the patches of brood in the full hive. Where a stock has a moderate amount of stores the latter plan of bruising some of the cappings two or three times a week may be practised; it serves a two-fold purpose —stimulates the bees as they deal with the food, and gives more room for breeding. Stocks that are in the third category—just living from hand to mouth—may need feeding. Given favourable weather, and plenty of flowers, they will be all right if the colony is strong—and it is usually the strongest colonies that are in this condition—but should there be a few days' bad weather they will quickly be in difficulties unless the bee-keeper comes to the rescue. If he delays too long, a number of white larvæ will be found thrown out under the alighting board, a sure sign of food shortage within the hive. A weak colony with no reserve stores should be fed slowly. This will enable them to breed more quickly, as the bees can stay at home to keep the brood warm instead of going out foraging, and the queen will be able to do more of her special work of egg-laying.

If there are several weak colonies in the apiary it will pay to unite them. The united forces will get along much quicker than the separate units, and later on in the season the colony may be again divided, the two stocks being then much stronger than they would be if the original two had been kept separate. A weak colony may be helped by being given a comb of food from a stronger one, as suggested before, and may also be further helped by a comb of brood; but in giving this great care must be exercised. Do not give too much, and, above all, *do not give a comb containing a lot of eggs and unsealed larvæ.* Choose a comb with a moderate amount of brood; and this should be all, or nearly all, sealed over, and, if possible, the young bees on the point of leaving the cells. Mature, sealed brood does not chill so easily as unsealed larvæ, and the emerging bees enable still more brood to be kept warm. Do not at present be tempted to "spread" the brood. If the queen has room for egg-laying, and there is a constant supply of food, the brood area will be enlarged to the capacity of the colony for feeding and keeping it warm. We have seen too much damage done by spreading brood, and have done it in our early days of bee-keeping, to recommend it.

Just a final word. Though we have altered the subject of our editorial this week, we have not dropped our work for legislation. We shall continue that, and return to the subject later. We are continually, almost daily, receiving fresh evidence of the necessity for legislation, and that quickly.

Our readers will notice a difference in the type of the JOURNAL this week. We have been in a difficulty for several weeks past. The JOURNAL is becoming more and more recognised as the best medium for advertisements of, or for, bee goods, and, as may have been noticed, much space has

been taken up with advertisements with a corresponding reduction of space for reading matter. We would have at intervals enlarged the size of the paper, but this would have raised the postage from ½d. to 1d., and the extra paper, printing, and postage for four pages—the least we could put in—would cost more than we can afford. By using a smaller type, not too small to make reading difficult, we shall gain almost another page of reading matter, possibly more, in each issue without any increase in weight, and at a trifling cost.

A Dorset Yarn.

In spite of a spell of cold east winds bees are extending comb on tops of bars. Some of them have brood in seven combs, but the majority have it only in five. Still, the most bees are where the combs are farthest away from the entrance, but they have shown no inclination to swarm yet, though when at Fordingbridge on March 31 one of the bee-keepers told of a swarm that week. Farmer Laws, at the East Dorset Executive meeting, spoke of his bees hanging round the entrance; this shows a warning of swarms to come. I have divided one strong lot, but have stopped now this cold spell has come. By moving back the brood box from the entrance, so that the bees have a free way round the walls of the outer case, the bees when crowded (as they are before swarming time) do not hang out at the entrance; they are on the outside of brood box in great numbers.

Those who have bees for sale should do well this year, as so many have gone under. In the Highcliffe area of Hants there has been a clearance; even bees in a hollow column of brickwork have died. Mr. Weaver tells me they have been there for years. His own stocks have also died, but he tells me of one bee-keeper on the same estate who has kept them continuously without loss, and it seems incredible that this is so. He brought a wild lot from the woods, and has always been able to carry on each year. I have sent Mr Weaver some bees for two or three years following, but each lot has gone under in the winter, even with new hives and new bars, yet that area seems an ideal place for bees—the woods with wild cherries, huge trees of poplar and sycamore, the great trees of Siberian crabs, each year carry so much bloom.

I am inclined to think that damp is the enemy in bad wintering. Have had a double floor board beneath my lot this winter for the first time; this keeps all moisture that might be in the hive away entirely from the brood-nest

Bees are coming in for a lot of inspection just now. One of the new Secretaries of State was here on Friday; his reception has brought many M.P.s and others from Government offices. Some of them had their first lesson on bees; they seemed more eager to learn of bees than to teach politics. He thought I was "pulling his leg" when I told him there were 50,000 to 200,000 bees in a double brood box hive in summer, all working for the owner of the Violet Farm.

Bees are mostly on the gooseberries; they are on the cherries, plums and pears, but not in anything like the numbers that work the gooseberries. One two-acre field of bushes was nearly a mile away from the bees. We have taken down several of the stocks to this field. That I am the gainer by doing so can be seen by the berries showing well beneath the blossoms. Never were there so many bees in this field before; it showed me that bees will not go far from the apiary if there is plenty of food close home. It is the Eastern couplet over again: "If the mountain won't come to Mahomet, Mahomet must go to the mountain." Willows and laurels are neglected, the stores in them are over, but the fruit blossoms are ready for them; all things in their order, one follows another; always food to be found for the workers. To me it seems that this will be the only means to end unemployment, when more people live on the land and grow for themselves the necessities of life. A few years since I wrote largely of this: Grow the necessities you want; raise peas, beans, marrows, use them ripe when they cannot be had green. Every payment to foreign countries for food makes our land the poorer. Fowls lay many eggs in spring; we store them in large pans with a preservative. We learn a lesson from the bees—store for the winter. Surplus butter can be salted for cooking purposes in winter. Surplus honey we have every year by the bees, all prepared for use, but then we have very simple tastes to cater for as the writer of this yarn has never eaten flesh foods for over forty years. Fruit and vegetables, butter, eggs and cheese, with plenty of honey; we are passing rich in the matter of food for the man of simple wants J. J. KETTLE.

Jottings from Huntingdonshire

All the world is dappled green, relieved with shades of many colours in which yellow predominates, but Nature is still pranking. Two poplars, ten yards apart, are reflecting winter and spring. One is covered with foliage, the other has only bursting buds. The dancing shadows as the trees sway in the wind are only equalled in their fascination by the waving of the fast-growing grass. The hives are full of life, and every bee seems too happy for words. I spring cleaned some hives yesterday, but never a bee had the heart to sting; one watched young bees wriggle themselves into the world, and how they wondered to where they had come! Being born into daylight is denied to the majority of bees. One notices fewer drones this year. Last year was notorious as a drone-breeding year. From various sources honey is being gathered and stored—in truth, the honey flow has commenced. I see a correspondent asks as to the value of lucerne as a source of nectar for his bees. Undoubtedly lucerne flowers are rich in honey, but

whoever saw hive bees busy among these blooms? Two hundred yards from here, two acres of lucerne has been growing for three years. I've looked in vain for the bees—at least hive bees. Other varieties of bees have been busy enough. True, a few bloated blossoms in the autumn have attracted the Italians, but that is all. Lucerne, it is computed, would yield 4½ lbs. of honey per acre per day for six weeks in a year, and yet our hive friends allow so much of this to evaporate into the air. If your correspondent sowed trefoil, or, better still, sanfoin or alsike, his bees would go in crowds to the blossoms. Our little insect friends do puzzle one at times. Some years the limes are the chief attraction when in bloom, other years they abandon the lime blossom to the bees of the wilds. Of course there are some flowers bees never resist. Wild white clover and rest harrow, like borage and anchusa, prove irresistible to the honey gatherers. In early spring the celandines never open in vain. In autumn the second crop of purple clovers is covered with our little friends doing so much good to their owners, themselves, and the farmers.

What will some of our readers say when I state that we badly need rain? Delightful as this long spell of sunshine has been, rain is needed to freshen and water the earth. The ground is getting very dry. Would it not be nice were it to rain always at night? The bees, I may say, are sensing some rainy weather, and the ash is out well before the oak. It is four years since the ash succeeded in beating the oak, and although we had a liberal rainfall in 1917, the summer was not half bad. So get your supers ready and watch them fill.—E. F. Hemming, Steeple Gidding. April 8, 1921.

Saving a Queen.

Several stocks have come to grief this spring, dwindling suddenly and mysteriously and leaving scarcely a score dead bees in the hive. On March 19 I found my best queen of 1920 with only some 200 bees. They had kept thoroughly clean about a hundred cells, and in each of these the queen had laid three, four, or six eggs. Beyond that, no brood whatever, not even one hatched grub. The queen is ever so nice-looking, besides having done very well last year, so I felt that I must save her. On that day she received from a daughter's hive one comb with sealed brood and barely enough bees to cover it with a minimum of safety. On the 21st, the bees were flying so nicely that I decided to go much further. I swept clean of bees two more combs (they were only shallows, like the previous one), placed these behind the other, then two of honey and a dummy, and changed places for the two hives during the play flight. The hives stood near together, and the rather surprising sequel was that each day retained about half of the flying bees. I did not cage the queen, as in complete prudence, perhaps, I ought to have done. On March 31 I examined the three back combs and found plenty of beautiful open brood, eggs and brightly-polished cells, as well as goodly patches of sealed brood. The two hives are still running nicely neck and neck so far as foragers are concerned, and there is plenty of time for each of them to become big honey-gatherers by June. I find that the queen that so nearly went under lost three-fourths of her brood and all her flying bees on July 19. Breeding conditions were very poor thereafter, and I suppose it was lack of young bees that made this little lot go downhill so this spring. Moral——. —G. G. Desmond, Sheepscombe, Glos.

Notes on Bee-Keeping.

The sweet song of the thrush makes one feel that winter is a thing of the past. Our little friend the honey-bee, as she feels the beneficent rays of the sun, begins to move about in a more businesslike manner, preparing for the coming season. Oh, hail, vast sun! How should we not adore thee, when we owe to thee the glow of the coming warm and cheery days of summer, the gentle caresses by which thy rays touch the undulating ears of corn, and gild them with the touch! The tiny bee-flower welcomes thy light and stretches forth its tiny petals, waiting to receive thy touch, that it might be a source of attraction to the little honey-fly. What thoughtful mind turns its attention towards thee and does not see in thee a great antitype—the "Sun of Righteousness," who will presently arise with healing in His beams, to speak peace and bless the world of mankind, even as thou art already doing in giving us thy light. It is thou who sustainest our globe in space and keepest it within thy glorious rays by the mysteriously powerful and delicate cords of attraction. When in the sad winter days thou disappearest behind the snowy eaves, we think thy fiery globe will never rise to mitigate the short December days, which are softented by thy languid beams. But spring restores thee to superb majesty, and our hearts are filled with hope in the illumination of those beauteous coming sunny hours among our bees.

The unusual mild weather we have had of late will have prevented the bees from having their necessary repose; the results will be plenty of stores consumed. Bee-keepers will do well to examine their stocks to see that they are not short of food. If any appear to be in want, syrup should be fed to them. Here, in the north, the usual time for syrup-feeding is about the first week in April, and then only according to climatic conditions. It is a bad plan to open up hives too early in spring, for if hives are opened too early, say during a mild spell, a cold snap is liable to follow, confining bees indoors, and having during the disturbance consumed more food than is good for them, the bees will be unable to take the necessary cleansing flight, with the result that disease may follow. The queens will now have commenced to lay nicely, gradually working up a strong population ready to take advantage of an early honey-flow. New beginners can easily tell from outside as well as inside appearance when the queen has commenced to lay. The

workers will be noticed on fine days to be carrying huge lumps of pollen on their hind legs. This is an unmistakable sign that the queens have commenced to lay. This spring finds me without bees. I miss their sweet hum. "Acarine" disease, alias "Isle of Wight," being the cause, but hope to start again shortly with pure Italians. From various reports one can hear there are others around this district who have lost their stocks. Lancashire seems to have had a fair share of the disease. When once an apiary becomes affected with this malady it becomes a difficult job to keep other stocks clear, even when introducing fresh blood and using antiseptics. It is good news to know that at last the Government are moving in favour of our craft in introducing legislation. Bee-keepers who have had anything to do with this disease will urge on this measure in soliciting their M.P. to vote in favour of the Bill. Many thanks, Mr. Editor, as per loan of your column during the past season *re* my views and experience in bee-life; also wishing your readers a prosperous honey-harvest in the coming season. P. LYTHGOE.

Padgate, Warrington, Lancs.

To a Bee.

What do you think of, my little bee,
When spring's first sunshine sets you free?
When you leave the confines of the close, dark hive,
And enter the world that is stirring with life?

What I think, when I see the great sky is blue,
And hear the old sounds that seem always new,
And smell the sweet scents that the spring does bring?—
I think for a moment, before I take wing:
That life, new life, is a glorious thing!

What do you feel like, my working bee,
When summer is here with the deep green tree?
When the flowers are waiting in warmth and sun,
All sweet with the nectar that has to be won?

What I feel, as I go on my daily flight,
Working from sunrise to shadows of night
'mongst flowers that call me! And toil without rest?—
I feel the life throb thro' my tiny breast:
A busy life, surely, is ever the best!

What have you learned then, my weary bee,
When autumn reminds of the winter to be?
When summer is gone, with its joys and its thrills,
And the shadows are purple that creep o'er the hills?

When my keeper and I have taken our share,
And have thanked each other for labour and care,
When all is forgiven, both jarrings and stings—
Then I know, as I fold up my flight-weary wings:
That labour well done is the best of all things!!!

March 28, 1921. D. S.

Bees and Bee-Keeping in Denmark.

It was with interest I read the article in the BRITISH BEE JOURNAL in the number for March 3, in which the Rev. E. F. Hemming inquires regarding bee-keeping in Iceland and in Denmark. In Iceland there are no bees at all. The climate is too cold for them to live there. Here in Denmark we had until thirty years ago brown bees. Then began the introduction of Italians, and most advanced bee-keepers have them in their yards now. Where the clover is they give the main crop of honey. The home bred and the first crosses give the best results. The imported Italians, as a rule, do not stand our long, cold winters, and backward springs, as well as the Italians that are bred here, and therefore more accustomed to the climate. Often must the bees stay in from early in October to late in March without flying. But, nevertheless, they come well through the winter.

Our spring is not as early as in England. The dandelion blooms normally here by the end of April; fruit trees in May. A swarm may also come out in that month; the regular swarming time is in June. White clover begins blooming about June 10, and continues through the summer. This plant, together with the aslike clover, gives us the most honey. Where there is no heather, there is not much more for the bees to gather honey from that year after August 1. In heather districts the colonies can often get honey in September, too. Frequently in summer time we have bad weather, but in good years we can sometimes harvest up to 100 lbs. per hive. I have myself had as much as 205 lbs. from a single colony.

Compared with Sweden, Denmark is more advanced in queen rearing. I have in my two bee-yards 90 colonies, which are nearly exclusively devoted to queen rearing. As the queens I am breeding are hardy, many of them go to Norway, Sweden, and Finland. I have in use each year about 150 nuclei. I am using Doolittle's cell-cups, start the cells in queenless colonies and let the bees complete them above the queen excluder in strong two-storey hives. This gives strong and prolific queens. When the weather is favourable I can rear up to 2,000 queens a year. Queens this year in Scandinavia sell at a price of about 10s. each. Honey is also a high price, and has been sold at 2s. and 2s. 6d. a lb.

We do not have "I.O.W." disease in Denmark. Foulbrood is yet here a little in some districts, but since we have got legislation for bee diseases in force, and compulsory inspection and treatment for bees, the disease disappears more and more, and I think it will not be long before foulbroody colonies are no more to be found in this country. — A. NIELSEN, Vejstrupot, Fyn, Denmark, March 8, 1921.

Cotswold Notes.

Of recent years the tendency has been to curtail the production of sections, and work more largely for extracted honey which is easier and rather less expensive to produce.

It appears to me, however, that the time is now ripe for the pendulum to swing back again to some degree, and for more comb honey to be found upon the English market.

Imported honey has had a tremendous sale during the last 5 or 6 years, but there are indications that the honey consumer is looking for a much more palatable and better article.

The flavour of imported honey is liable to pall on the palate after a while, and its cheapness has been the chief point in its favour.

By the time this season's honey crop is off the hives (and I feel it will be a good one) the English market will be ready to take all the home-produced honey it can get.

No comb honey to speak of was produced last year. Why not go one further to stimulate the home market and make this a comb honey year?

Although a little more costly to produce, first quality sections are likely to be infinitively easier to sell this year than extracted honey in certain quarters.

The difference in cost per lb. between section or extracted honey is not easy to arrive at. It depends on the locality, the kind or variety of bees, and the cost of materials in each case. However, I have noticed that bees will store 27 to 30 lbs. in shallow-drawn combs in about the same length of time taken to fill and seal 21 sections.

Furthermore, some mixed farming localities are not so suitable for producing fancy sections, on account of the flow being light and drawn out, rather than short and very heavy when the temperature is high.

No district is better than one in which a large acreage of sainfoin abounds, followed by clover; and the conditions seem to render it easier to crowd the bees and yet curtail swarming.

Sections in the flat are rather more expensive this year, and it therefore costs more to fit up racks of 21.

On the other hand, while prices of the new crop extracted honey will be easier, there is every likelihood of a good demand for sections at a price which should more than counterbalance this year the difference of yield between the two kinds of honey.

There is no outside competition to meet, and there is nothing more delicious than sections of the best English honey.

I hope to offer some suggestions as to the spring and summer treatment of colonies worked for honey in the comb.—A. H. BOWEN, Cotswold Apiaries, Cheltenham.

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of March, 1921, was £7,214.—*From a return furnished by the Statistical Office, H.M. Customs.*

North Cheshire Notes.

THE DANDELION AS A HONEY PLANT.

When I had an apiary in Oxfordshire dandelions were a great source of honey and pollen about the end of April. The pasture fields around my apiary were literally one yellow sheet, much as illustrated in "Roots' A.B.C. of Bee Culture." They were very helpful, both as honey and pollen producers, for building up, but were too early for surplus. I have noticed that the bees always visit them in the forenoon: one scarcely ever saw a bee on them after about one o'clock. This, in reply to Mr. Kettle, paragraph 90.

Acarine Disease.—The Rev. G. H. Hewison's article, with photomicrography of *Tarsonemus woodi*, is very interesting and suggestive. I quite agree with his concluding remarks "that we have a long way to travel before we arrive at the definite cause (or causes) of 'Isle of Wight' disease." Is not the mite shown in "Bees Shown to Children" meant for the blind louse *Braula coeca*? [No.—EDS.] The letterpress would seem to indicate this, viz., "Bees have fleas, too, and though they are not very formidable enemies, they are a nuisance. A picture of one of these tiny mites is found on Plate xxxiv." Nevertheless, this plate does not agree with the one of *Braula coeca* in "Roots' A.B.C. X.Y.Z. Rearing Drones." Is not Mr. Bowen's recommendation of one comb of drone cells per hive rather a large amount? Personally, I think one between two hives would be ample. One would then have over 1,000 drones per hive, surely ample for securing a mate for a young queen. Undoubtedly the better plan, if one has many hives, is to utilise one or more for raising selected drones.

I think the reason cats like sitting under hives is because the ground is usually dry there, and the position is usually sunny (*vide* paragraph 91). Bees visit newly turned-up soil for moisture. I do not think bees have yet taken to farming (or is it gardening?). Asters in wheat-fields, and candytuft amongst barley," is the result of seeds carted out with manure, the refuse from the garden having previously found its way to the "midden."—D. J. HEMMING, Appleton, March 9.

The New Annual Sweet Clover.

We have had numerous inquiries as to where seed of the above could be procured, and in the "B.B.J." for March 17 we advised readers we were making inquiries as to the possibility of obtaining it. So far as we can find out, there is none to be had in England, and the A. I. Root have just replied to our query as follows:—"Except for a little seed which we happen to have in our office here, there is no annual sweet clover seed on the market. There is, however, expected to be quite a general crop this year, and this fall plenty of seed will be offering."

We are afraid, therefore, would-be growers will have to exercise patience until next year

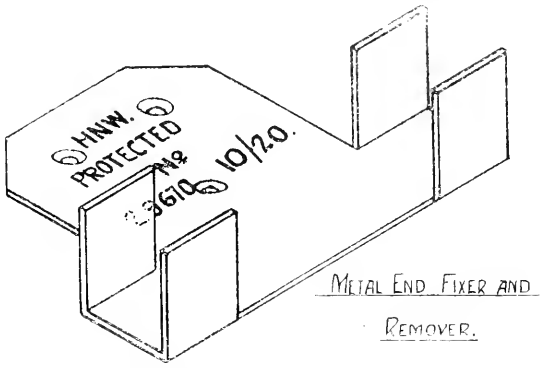
Novelties for 1921.

THE H.N.W. METAL END-FIXER AND REMOVER.

This simple though exceedingly useful little device has been invented by Mr. I. P. L. Hodson and Rev. H. Newman. Its purpose is to facilitate the fixing or removal of W.B.C. metal ends.

The plate has at the back three holes by means of which it can be secured to a bench or table.

The W.B.C. metal end is laid between the four uprights, and the end of the standard frame is then pushed past the two front uprights of the fixer and through the hole in the metal end as far as it will go.



METAL END FIXER AND REMOVER.

To remove the metal ends from the frames the metal ends are put between the four uprights of the fixer, and the frame is then pulled out easily, although secured with propolis. This method of fixing and removing the W.B.C. metal ends will be found much easier than pushing them on, or pulling them off by the old two finger method.

The price of the device is 1s. 2d., post free, and may be obtained from any bee appliance maker or agents.

Berks. Bee-Keepers' Association.

ANNUAL MEETING.

Fourteen persons attended the annual meeting of the Berkshire Bee-keepers' Association, held at Reading on March 12.

The accounts showed a considerable balance at the bank, and that a balance of £5 9s. from the show (held in connection with the Royal Counties Show last June) had been transferred to the general account.

The committee were re-elected, with the addition of Mr. G. Wallace. Mr. F. B. Parfitt was again elected chairman, and Mr. H. Edwards was made hon. secretary in place of Mr. C. H. Heap.

It was decided to increase the subscriptions to 7s. 6d. and 4s. 6d., and to rescind the resolution, passed many years ago, affiliating the Association with the British Bee-keepers' Association.

On the motion of Mr. H. Edwards (one of the Association's experts), seconded by Mr. E. J. Bromley, a long resolution was passed regretting that the Horticultural Sub-Committee of the Berks Agricultural Committee did not take counsel with the Association before launching their scheme for instruction in bee-keeping, declaring that "the present wasteful, extravagant and uncalled-for scale of outlay from national and county funds should be at once revised and reduced," expressing the belief that more permanent good would accrue if a third of the present outlay were placed at the disposal of the Association to assist in carrying out its regular work, and saying that it was the Association's "considered conclusion" that the situation called for no expenditure on a re-stocking scheme.

Before a vote was taken, the chairman said that the resolution seemed to condemn themselves, as the scheme was mentioned at the annual meeting last year; and Mr. Heap pointed out that the delay in appointing the whole time instructor for the county was due to the Ministry of Agriculture, who did not give their final approval to the scheme until June, and not to the Horticultural Sub-Committee. He also denied the allegation that indiscriminate propaganda was being carried on in Berkshire; and said that definite courses of instruction had been offered to every parish in the administrative county. These offers were something new, but a disposition was now being shown to take advantage of them. Bees would be ready for sale at the re-stocking station at cost price towards the end of the coming summer.

The last list of members was published in 1915, and contained 32 names, and Mr. Heap stated that in 1920 only twelve persons paid subscriptions.—*Communicated.*

Weather Report.

WESTBOURNE, March, 1921.

Rainfall, 1·19 in.	Frosty nights, 6.
Heaviest fall, ·24 in. on 28th.	Mean maximum, 51·6.
Rain fell on 17 days.	Mean minimum, 37·3.
Below average, 1·20in.	Mean temperature, 44·2
Maximum temperature, 61 on 31st.	Above average, 2·4
Minimum temperature, 26 on 3rd.	Maximum barometer, 30·405 on 1st.
Minimum on grass 21 on 3rd.	Minimum barometer, 29·397 on 29th.

L. B. BIRKETT.

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Inimical Drones.

[10426] Surely the Rev. E. F. Hemming is determined to frighten us in *some* way. Last year we were all anxiety on account of a new queen disease he had discovered (which luckily did not spread far beyond Steeple Gidding).

Now he raises our fears with a story about some "inimical drone" he has heard near his hives, intent on goodness knows what fell purpose. Can it be that the Rev. Hemming is on the verge of discovering yet another new disease—a sort of bee rabies which changes the usual genial disposition of our drones to one of malignity?

Perhaps he will tell us in due course how best to deal with these inimical drones when they appear. Some decoction of laurel, maybe, or what?—DELTA S.

April 7, 1921.

The Experience of the Inexperienced.

[10427] A new territory will be revealed to him that fights the "Isle of Wight" disease for the first time. He will soon become an adept in managing bees. Driving, dividing, queen-finding, and the like will soon become very prosaic undertakings. A crawling bee is an abomination. Language fails to describe the depressed thoughts that rise at the appearance of half-a-dozen bees, each with a kink in the wing, running out of the entrance and tumbling off the alighting board to the ground. It is a signal that all the feeding, tending, and packing has been a labour in vain. Is there a cure? If so, why don't you give it to the world in plain words? He that holds back a secret of this kind has in him the making of a villain. I believe that Mr. Simmins is on the right track, only that the plan he suggests is somewhat laborious. According to his theory the essentials of a cure are a young queen and artificial winter stores. Extracting the brood-combs in September when full of grubs and then feeding with syrup is a rather messy business, and very trying to the beeman's patience, when all hives are in a passion for robbing. But I think it is the only safe plan. When the pest is about in summer the bees collect and store the germs by robbing, or by visiting flowers after unhealthy bees. So in winter or spring, when they reach the contaminated honey, out breaks the disease again, and do not the germs grow and multiply in such an advantageous a place as a warm, full honey cell? Apparently, all my stocks were healthy last September, after a lot of disinfecting and scrubbing, but now again disease has re-appeared in two stocks. One is improving on being fed on medicated food, but the other is full of crawlers sticking to the top of the frames. I only hope that by applying this idea, of requeening and artificial feeding, that I can work out this troublesome enemy.—KATA PHUSIN.

Variations in the Season.

[10428] I wonder if your readers have noticed how very much more forward fruit bloom is in Huntingdonshire than in the South. On March 19 Mr. Hemming speaks of pear blossoms—"the wealth of bloom is wonderful." Mr. Kettle on March 20 speaks of only "a few blossoms of Jargonelle expanding." Here, four miles from the South Coast, I have only one tree, on a hot south wall, in bloom, nine days later.—A. P. WHITE.

Alfriston, March 30, 1921.

A February Swarm.

[10429] I think I can, unfortunately from experience, answer Mr. C. Hogan's question in your issue of 17th. It was for lack of ventilation.

In December—date I omitted to note—my heifer got into the apiary, and by rubbing herself against hives closed the slides. When I opened them the bees rushed out in one mass. It was cold, many returned to hive, but crawling set in, and they never recovered. It was my strongest hive entirely free from any disease.—F. T. GETHING.

Chilmark Quarries, Salisbury.

March 19, 1921.

Trouble from Eating Honey.

[10430] If space may be available, I think I should comment on a few suggestions made in allusion to my letter on page 12, "B.B.J.", headed "Trouble From Eating Honey." Thus, if Mr. Newton had read my letter more closely, he would have noticed that I referred to fumes from burning sulphur and not brimstone in its crude form, in which state I am fully aware of its medicinal qualities, being in the habit of regularly taking it mixed with honey in the spring for several years with rather soothing and beneficial results. And re the last paragraph by the same writer, page 49. Doesn't it sound strange for bees to have gathered honey from poisonous plants and stored it in skeps years ago, and then ignored that same source and refused to gather any such honey and store it in modern hives at any time during the last thirty years?

Again, the Rev. R. Doupe, on page 120, suggested tin-poisoning. Now, if the rev. gentleman will glance back to page 70 he will clearly see that Mr. D. J. Hemming's mother partook of comb honey: that, I presume, could not have been in contact with tin: neither has the honey that caused my own trouble, for tin receptacles were not generally known at that time; earthenware vessels

were used instead. Thus, still I have my supposition based on my own original suggestion, since the old practice of smothering bees has long been forsaken in my apiary and modern methods adopted, and correspondingly honey is now eaten with impunity.

I should add a word more on fixing a tap to aluminium or any other metal. I suggest that the inserting part be threaded up to an outside flange and a matched nut to screw on tight from the inside, simple as winking, I think would be an improvement on either soldering or riveting.—D. BATEMAN, North Pembrokeshire

Another Note from Notts.

[10431] With reference to Mr. A. Pride's "Notes from Notts." in the Journal for March 24 and the Editor's foot-note with regard to queen-rearing, I do not see that an old queen can be better than, or equal to, a young queen for the rearing of the best queens.

I do not see that chick rearing and queen rearing form a good comparison, as the development of a bird is quite a different thing to that of an insect.

I take it that maturity is that period in the life of a living thing when all growth and development has been completed, and it stands at the apex of its existence. Every day after that period marks a gradual falling away from that period of completed strength.

A chick—if a female—reaches maturity when she becomes a hen, an insect when it has passed from the egg through the larval and pupal stages, emerged from the cocoon a perfect insect, mated, and—if a female—laid her first egg. After then, no further development or growth takes place.

Surely, then, a queen reaches maturity when she has laid her first egg, and every day after that means, through her efforts when ovipositing, a gradual drain on her powers, and a consequent gradual falling away from her period of maturity.

Granting, then, that the best queens are reared from mature queens, should not they be reared from one recently commenced laying, and not from one more than half-worn-out with two or three years' almost continuous work?—J. B. CLAXTON, 80, Spalding Road, Nottingham.

Onions and Acarine Disease.

[10432] I am very pleased to say that the stock I reported on September 23, 1920, has come through the winter quite as well as I expected, judging from outward appearance.

About the middle of February I slipped a cake of candy under the quilt and could see quite a good number of bees. They are very numerous, and strong on the wing whenever it is warm enough for a flight, but I have not examined the brood nest yet.

I am very grateful to Dr. Rennie and others who have spent so much time and trouble in trying to solve the mystery of "I.O.W.," or acarine, disease, but it appears to me we are still at a dead end so far as their efforts are concerned. Many conflicting theories have been advanced as to the cause of the malady, but I am still of the opinion that indigestible pollen is the primary cause, and if acari are found in the air passages I contend that is a result of chronic constipation. [Can our correspondent tell us *how* constipation can possibly cause the mites to appear and breed in the trachea?—EDS.]

Many of us know that if a person is suffering from constipation in a more or less aggravated form, that the patient may probably develop a sore throat or the bronchial tubes become clogged, causing difficulty in breathing, or some other ailment of the air passages. Now, for all we know, Mr. Tarsonemus may be invading these organs, robbing the patient of vitality, but on the bowels being persuaded to carry out their duties in a businesslike manner the distressing symptoms generally disappear. It would be very poor consolation to me if I happened to be suffering somewhat as above, and, on going to the doctor, he very sympathetically asked me to open my mouth, put out my tongue, and say "Ah," and then very gravely informed me I was suffering from an invasion of Tarsonemus and that I was to go home and wait for the undertaker.

With all due respect to the scientists, I do not agree with those bee-keepers who say we should leave all the research work to them.

For the last 13 years I have read all the theories about the cause and cure of "I.O.W." disease published in the "B.B.J.," and up to the present there has been nothing advocated that goes so quickly to the seat of the trouble as onion syrup. My own affected stock, as reported on September 23, completely recovered in six days. C. Harrison (p. 500) says, "All crawling ceased in three days," and J. W. Harper and H. Cantle say, "Within four days all symptoms of disease had entirely vanished." Will Dr. Allen, of Ambleside, please note?

I know that when my report appeared in the JOURNAL last year the season was too far advanced for much experimental work to be carried out before closing down, and I would urge all bee-keepers to give it a trial on the first signs of disease, which I believe is dislocated wings, and faithfully record results for the benefit of others. The cost of treatment per stock is practically nil, for 1 lb. of onions will be sufficient to medicate enough syrup for five or six stocks, and I hopefully anticipate the benefit derived will be enormous.

I heartily congratulate those bee-keepers who were fortunate enough to take advantage of the experiment.—T. H. WITNEY, March 17, 1921.

Dysentery and Feeding Syrup in Winter.

[10433] On Sunday (March 13) I visited a friend whose bees are under my care. I had requested him to feed them with candy during the winter, but on approaching the three hives I found one stock dead from starvation, and another from dysentery.

The former had over the frames an untouched cake of candy and the bees were stuck head foremost in the cells and were all rotten. In spite of this the bee-keeper (?) swore that they were flying strongly last week, and was very upset when I informed him that they were dead. It was no use arguing with him; he had given them more food this winter than he had ever done before, and could not believe that they had starved.

In the autumn he had talked of feeding them with syrup, and, though I had strongly advised him to use candy, he had seen an article in THE BRITISH BEE JOURNAL advising all bee-keepers to use a special syrup obtainable at Pascall's, and had been feeding the bees on this all through the winter. In my opinion, it was this that caused the dysentery, but should be glad to have the Editors' opinion on "Syrup feeding in winter," and also to know if such an article did appear in the JOURNAL about Christmas time, as it certainly escaped my notice.

In the case of the stock that died of starvation, the cake of candy must have been placed over the bees after they were dead, as, though it was directly over the cluster, it was untouched.

The third stock was in a very flourishing condition, and bees were pouring in with their hind legs loaded up with yellow pollen. The quilts had been thrown back on to the frames in a careless way, leaving a draught through the hive, and there was no sign of honey or candy. The hive was full of bees, however, and, giving them a cake of candy, I covered them up carefully again, and trust that all will go well with them till my next visit.

A bee-keeper next door had lost his one and only stock—though he informed me that he had bought two in Kent—and this, I believe, had also died from dysentery. It was very healthy when I last saw it in the autumn, but I was told he had also been feeding it with syrup.—W. H. NEEDHAM.

[It is not advisable to feed bees with syrup, or for the combs to contain a lot of unsealed stores in the winter. The unsealed honey or syrup is likely to ferment, and the fermented food being eaten by the bees causes dysentery. We do not know that Messrs. Pascall made a special syrup, nor was it recommended for winter food in THE BRITISH BEE JOURNAL. The bee-keeper evidently got some candy from Messrs. Pascall and made it into syrup.—EDS.]

British Bee-Keepers' Association.

LECTURES AT GOLDERS HILL PARK.

A special course of six lectures on bee-keeping will be given in the British Bee-keepers' Association's apiary, London County Council Park, Golders Hill, London, N.W., on Fridays, April 22 and 29, May 6, 13, 20, and 27, at 6 o'clock each evening.

Those desiring to attend these lectures must make application at once for enrolment and particulars to—W. HERROD-HEMPSALL, Secretary, 23, Bedford Street, Strand, London, W.C.2.

A simple "chat" on bees will be given free, at 3.30 each afternoon, before the lectures.

Trade Catalogues Received.

L. Andrews & Co., 78, Westgate, Peterborough.—Not a large catalogue, but everything necessary for bee-keeping is listed.

A. H. Bowen, Coronation Road, Cheltenham.—Mr. Bowen was becoming well known as a queen breeder before the war, but having to "join up" the business has been in abeyance so far as bees and queens were concerned until Mr. Bowen was demobilised, and the bee business is now again in full swing. We notice Mr. Bowen is supplying combless package bees, as is done in America. Useful information on dealing with bees and queens is given, also a small list of appliances, several of which are his own design.

Mr. E. J. Burtt, Stroud Road, Gloucester.—A neat, well-illustrated catalogue. Several novelties are listed, including nucleus hives and other appliances designed by Mr. Bowen, Edwards' nucleus hives, and hives on American lines to take various sizes of frames. Mr. Burtt is also agent for several American and Continental periodicals, and lists a good assortment of English, American and Continental books on bee-keeping.

Messrs. Lindsay & Fenwick, South Street, Perth, are prepared to supply bee goods either wholesale or retail. Their 1921 catalogue of 28 pages is well got up and printed on good paper. The producer of heather honey is catered for, a heather hive with a specially ventilated floor board and a very serviceable looking heather press being listed, also cheese, or tinned wire, cloth for use in a heather press. A carefully bred strain of native bees are also listed.

C. T. Overton & Sons, Lowfield Apiaries, Crawley, Sussex.—This old-established firm sends us a catalogue of 32 pages, containing many illustrations, including the "Tickner Edwards" hive, designed by the well-known author of "The Lore of the Honey Bee" and other works. An 18-page list of revised prices is also enclosed.

Advertisement Rates.

We regret that owing to increased cost in various directions it is necessary to make a further slight addition to our advertisement rates beginning with the JOURNAL for April 7. Taking into account our increased circulation, our revised rates are still decidedly moderate.

DISPLAYED ADVERTISEMENT RATES

British Bee Journal or *Bee-keepers' Record.*

	£	s.	d.
Full page	4	10	0
Half page	2	16	0
One-third page	2	0	0
Quarter page	1	15	0
1½ in. across page	1	10	0
1 in. across page	1	0	0
½ in. across page	0	12	0
1½ in. single column	0	17	0
1 in. single column	0	12	0
½ in single column	0	7	0

Discount for a series of consecutive displayed advertisements:—Six insertions, 2½ per cent.; Twelve insertions, 5 per cent.; Twenty-six, 15 per cent.; Fifty-two, 30 per cent.

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 7s. per ½in., or 12s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on MONDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

SURPLUS STOCKS on frames, also Skeps, to dispose of. Seen by appointment, or stamp reply.—H. OBORNE, Guest Road, Eishopstoke, Hants. r.o.38

BEE GARDEN FAVOURITES.—Plant American Sweet Clover and Phacelia, 6d. packets; Willow Herb, twelve 2s. 6d.—BOWEN, Coronation Road, Cheltenham. o.39

FOR SALE, Extractor, geared, new; Ripener; two W.B.C. Hives, good; two Outer, one Inner Lift; two Shallow, two Section Racks, complete; Escape, Dividing, Wiring Boards; one Skep, new; Brood, Shallow Frames, fitted with foundations; Woiblet, Smoker; Frames in flat. What offers?—MRS. STRETTON, Brookfields, Littleover, Derby. o.40

TWO strong, healthy Stocks of Italians on six frames, £4 10s. each.—GLYNN, 15, Kelvin Avenue, Palmers Green, Middlesex. o.42

BEES.—One Stock, Italian strain, in 10-frame hive, lift, two racks of sections, excluder, new condition, £4 10s.—SHEPHERD, 51, Lake Street, Oxford o.43

STOCK, 50s.; delivery near London, with Hive, 70s.—Box No. 21, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. o.44

BEES.—Pure Italians; disease-resisting strain: Swarms ready May and June, 40s.; sent in rotation; cash with order.—W. YOXALL, Oaken, Codsall. o.45

THREE HIVES, section racks fitted, feeders, foundation, frames, etc., for Sale; suit beginner; no disease; removing.—Particulars from CARTHY, 45, Park Street, Pembroke Dock. o.46

FOR SALE, Stock of Italians, 9s. frame.; Hive, 25s.; Excluders, 1s. 6d.—F. SOFTLY, Letchworth, Herts. o.50

INCUBATOR, 200-egg, £9, or exchange bees.—MACE, Faircotes, Harlow. o.51

WANTED, by the Northumberland B.K.A., an Expert to take charge of the Re-stocking Apiary at Alnwick, May, June, July; good wages offered.—Apply to MAJOR F. SITWELL, Galewood, Wooler. r.o.52

FERTILE QUEEN wanted immediately.—MRS. CADLE, Holme Lea, Penarth, Glam. o.53

SPECIAL OFFER TO CLEAR.—Four 6-frame Italians, £3 10s. each; two Italian Hybrids, £3 5s.; mid April delivery; several good W.B.C. Hives, nearly new, some calico covered roofs, all fitted with inner chamber, super and section rack complete, £1 15s. each; some single-walled Hives with two ordinary section racks, £1 each; all carriage paid; cash with order.—CURTIS HART, Newgate Street, Hertford. o.54

TWO splendid Stocks Italian on 10 and 9 frames, 1920 Queens, guaranteed healthy; also three new well-made Hives, W.B.C. pattern, and Appliances. Reasonable offers accepted for the whole or part. Good opportunity for a beginner.—CURTIS, 1, Nimrod Road, Streatham. r.o.55

GOOD ZITHER BANJO and Case, good condition, in exchange for Stock of Bees. Reason for disposal, lost two fingers in war.—HOPPER, Kidlington, Oxon. o.56

FOUR W.B.C. HIVES, all excellent condition, numerous lifts and drawn-out combs, Honey Extractor and Sundries, £10.—HARGREAVES, Beechwood, Broad Road, Sale. o.58

SELLING CHEAP owing to change in size of frame, Hives, Section Racks, Shallow Frame Racks, and Drawn Comb. Write for list.—R. P. SIMS, Winthorpe, Woodcote Valley Road, Purley, Surrey. o.60

FOR SALE NOW, three 10-frame Stocks with 1920 Queens; Italian, £4 15s.; Hybrid, £4 10s.; Black, £4 5s.; box 10s., returnable; carriage extra.—ASHWORTH, "Redfern," Limpsfield, Surrey. o.68

WANTED, spare Queens, any breed; must be healthy.—Offers to J. MOORE, Bleasby, Notts. o.57

TWO STOCKS, 8 frames, Simmins' strain, Italian Hybrids, 95s. each.—CHAPMAN, 11, Friern Watch Avenue, North Finchley, London, N.12. o.73

YOUNG MAN seeks employment in an Apiary; life experience with bees; has been accustomed to kitchen garden work; willing to make himself generally useful.—Apply, SECKSTONE, The Poplars, Limbury, Luton, Beds. o.74

W.B.C. HIVE, 25s.; Honey Extractor, 20s.—279, Seely Road, Upper Tooting, London, S.W.17. o.75

30 STRONG, healthy Italian Stocks, £5 each; 25 English Blacks, £4 each; April delivery.—YOUNG, 42, James Street, Cambridge. r.o.11

PURE LIGHT CAMBRIDGE HONEY, extra fine quality, 13-lb. tins, 17s. 6d.; 28-lb. tins, 36s. 6d.; carriage paid; sample 4d.—YOUNG, 42, James Street, Cambridge. r.o.12

FOR SALE, Nanny Goat, just kidded and in full milk, £4.—W. HERROD-HEMPSALL, Old Bedford Road, Luton, Beds. o.22

WANTED, for a six months' engagement, an experienced Bee-keeper to take entire charge of a large apiary and teach pupils; not afraid of work; lady for preference.—State salary required and give references to Box 20, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. o.23

COMPLETE MODERN APIARY FOR SALE.—30 strong Stocks, 37 splendid Hives, and a large quantity of Sundry Appliances in splendid condition, property of gentleman giving up bees through ill-health. Prices moderate; delivery early April. Lists free. Order now.—PEARSON & GALE, Marlborough. n.37

BEE-KEEPING.—Correspondence Course. Practical and theoretical study. Stamp.—MISS PALING, Golden Square, Henfield, Sussex. r.m.89

BEE-KEEPING TUITION for Ladies in Apiary. Short or long courses, as required.—MISSES PALING & PILLANS, Golden Square, Henfield, Sussex. n.92

THE MISSES COATES, breeders of White Wyandottes.—Sittings of Eggs, 12s. 6d.; Chicks double. Pedigrees given.—The Broadheath, Presteigne. n.107

WANTED, healthy Swarms, May-June next; boxes provided.—Send full particulars and price, Box 13, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. r.n.39

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

BUSINESS ADVERTISEMENTS.
1½d. per word.

BEES AND QUEENS FOR 1921.—Send for our Catalogue, free on application.—PEARSON & GALE, Marlborough. r.n.174

STOCKS of Italian and Italian Hybrids with 1920 Queens, 8 frames, £4 10s.; 6 frames, £3 15s.; 4 frames, £3; cash with order; carriage paid; box 10s. extra, returnable.—G. H. MYTTON, Lyncroft Apiary, Stafford Road, Lichfield. r.o.41

GOLDEN PROLIFIC ITALIANS give the greatest pleasure and profit throughout the season—the highest satisfaction early spring.—Particulars, E. COOMBER, Breeder, 64, Ronald Park Avenue, Westcliff-on-Sea. o.65

HIVES.—W.B.C. Hives, dovetailed, consisting of separate stand and floor, outer case, brood box, shallow-bar rack, lift and roof, all stands and underside of floorboards twice creosoted, price 40s.; hives painted two coats 5s. extra; carriage forward; immediate delivery.—C. COCKLE, 11, Townsend Road, Southall, W. r.o.61

STANDARD BROOD FRAMES, new, in the flat, saw cut, 17-in. top bar, 11-16 in. x ⅞ in. top, 3s. dozen; 11-16 in. x ½ in. top, 3s. 3d. dozen; ends reduced to take ordinary ⅞ in. W.B.C. metal ends; carriage extra.—C. COCKLE, 11, Townsend Road, Southall, W. r.o.62

DAY-OLD ITALIAN QUEENS, an economical means of invigorating your stock. Reduction for quantities.—E. COOMBER, Westcliff. o.66

UNITIVES are the only single-walled type of honey factory possessing every one of the following desirable features—compactness for transport, quick closing and opening, automatic ventilation, zinc covered roof, direct access to supers, checked non-plinth joints, double rabbeted corners, unit convertible inner-wall construction, double grooving for commercial and for standard brood and super frames, wintering clustering space without any eke, non-swarming supering *under* brood chamber, all hand made to jigs to maintain interchangeability, of yellow pine timber at moderate prices. Why not try one?—BALLANTYNE, 161, Trongate, Glasgow. o.47

DUTCH BEES.—Four-frame Nuclei, £2 10s.; 6-frame Stocks, £3 15s.; cash with order; carriage paid; travelling boxes to be returned; June-July delivery.—MRS. MUNRO, Drakies Cottage, Inverness. o.67

4-FRAME NUCLEI, covered bees and brood, Italian Hybrid, absolutely no disease, £2 15s.; Swarms, £2; travelling box, returnable, 10s.—HOGAN, Boxford, Suffolk. r.o.71

GREAT REDUCTION.—£2 3s., 4-frame Nuclei, Italians, Dutch-Italian, and Dutch, May and June delivery, carriage paid. Cash with orders. No better bees; all beautifully clean and healthy.—SEALE, Ashley Cottage, Oatlands Drive, Walton-on-Thames, Surrey. o.72

MAY 1 we shall have ready a simple, clean, and effective *cure* for the mites infesting the bees. It will kill *Tarsonemus woadi* without injuring or even disturbing the bees. We will present a 3-frame Bozzalla nucleus, deliverable in May, to the suggestor of the best and cheapest plan for placing this discovery on the market.—S. H. SMITH, 30, Maid's Causeway, Cambridge. r.o.64

I SPECIALISE in pure Italian 3-framed Nuclei; disease free; guaranteed the very best value obtainable; price £2 10s.; cash with order.—N. WILKINSON, The Old Rectory Apiary, Farnham, Saxmundham. r.n.57

HONEY, Hives, Baskets of Bees, all qualities, lowered prices.—Write, LACOSTE, Larche Corrèze, France. o.48

ITALIAN BEES.—Few 4-frame Nuclei, May delivery £2, June 35s.; plus 5s. box, returnable; prolific Hybrid Queens 7s. 6d., three £1 1s.—R. P. SIMS, Winthorpe, Woodcote Valley Road, Purley, Surrey. o.59

QUEENS! NUCLEI!—Nine-tenth of 1920 orders came from 1919 customers.—JOHN W. PRICE, The Outlook, Maidstone. r.o.63

1921 PURE FERTILE ITALIAN QUEENS, direct from Abbé Warré, France. One large bee-keeper had 18 of these Queens in 1919 and 42 in 1920. 9s each, May/June delivery.—ELLIOTT, "Westfield," Kelvin Road, Ipswich. o.69

MAY 1 DELIVERY.—Limited number of Nuclei, Italian Hybrids, disease-resisting strain; young tested Queens, 21s. first frame, 10s. 6d. each additional frame; orders sent out in strict rotation; case 10s., returnable.—STARKEY, 55, Stafford Road, Brighton. r.o.70

STRICTLY BUSINESS.—A Japanned Sprayer, 6s.; one dozen Flavine Powders, 1s.; "Let the Bees Tell You," 2s. 6d.; all post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. r.o.18

SWARMS, May, June, Dutch, guaranteed healthy, 8s. 6d. per lb. (always buy by weight). Orders in rotation. Note extract from letter received: "Up to the time of the introduction of these Dutch bees our average yield per hive was not more than half of the record yield given by these Dutch bees."—WOOD, Colewood Apiary, New Road, Mitcham, Surrey. r.o.21

ITALIAN HYBRIDS.—Nuclei, 3-6 frames, from £2 2s., carriage paid; delivery early June; reliable strain; no disease.—HOSEGOOD, 26, Purley Park Road, Purley, Surrey. r.o.25

CAMBS. ABBEY STRAIN ITALIAN BEES.—Stocks on 8 frames, 1921 Italian Queens, £5 5s.; May delivery; box 10s., returnable.—J. H. DOGGETT, Abbey Lodge, Cambridge. o.10

ITALIAN NUCLEI, bred from Italy's best, hardy, splendid workers, three frames, young fertile Queen, 35s.—"A. B.," BEE JOURNAL Office, 23, Bedford Street, Strand, London, W.C.2. r.o.29

HOW IS THIS?—"I still have the original queen which came in the nucleus from you in 1919. She has at the present time brood in seven combs; also the two other stocks (increase from her) are in a very forward condition, notwithstanding the fact that they were *not* fed at all during the past season, while my other stocks were fed practically right through. I am more than satisfied with them, and I intend to re-queen my other stocks with virgins from your original queen. Wishing you every success, and be sure I shall recommend your bees wherever I can."—E. J. G., Oswestry, April 2, 1921. An unsolicited testimonial, which is the *rule* for *Adminson's Bees*.—ADMINSON, LTD., Benson, Oxon. r.o.32

"THE BEE WORLD."—A very large issue, comprising seven numbers, with many contributions from leading British bee-keepers and international apiarists of fame, and profusely illustrated, will appear about mid-April. Future numbers will be published mid-monthly. Only 5s. 6d. will bring to you, post free, this big number, which we feel confident will win your admiration.—THE APIS CLUB, Benson, Oxon. o.31

THE MOTHER QUEEN IS THE LIFE CENTRE OF THE COLONY.—No Apiarist worthy of the name would consider a commanding price too high for a first-class *Queen*.—ADMINSON, LTD., Benson, Oxon. r.o.33

"THE BEE WORLD"—*The "winged" paper that "circulates."*—Commencing the third volume (June, 1921) copies *in bulk* (minimum, one dozen) can be supplied at no more than 6d. per copy, post free, to the Secretary of any Association affiliated to the *Apis Club* (affiliation fee, one guinea per annum) for distribution to his members, each of whom can thus get the paper from his Association at no more than 7s. 6d., post free, per annum (a *discount* of 3s.). By arrangement with the B.B.J. Office individual regular subscribers can obtain *both* papers, commencing June, 1921, at £1. Are you availing yourself of one of these sporting offers?—THE APIS CLUB, Benson, Oxon. r.o.34

"THE BEE WORLD."—*The paper that is read, re-read, and treasured.* Will it not appeal to you? Subscription from June, 1921, 10s. 6d. per annum, post free.—Publishers, THE APIS CLUB, Benson, Oxon. r.o.36

"THE BEE WORLD."—The Manager regrets that back issues are out of print. Non-subscribers can obtain *future* numbers (*mid-monthly*) through their newsagents or through any member of the trade at 9d. per copy, or 10½d. post free. To avoid disappointment order your copy *well in advance*, or enrich your library by a *permanent* subscription. *You will never lose*, when the demand for earlier issues at a good price still remains and cannot be met. r.o.35

PURE imported Carniolan Alpine Queens, resist foul brood and severe winters, best honey gatherers. Order one; you will want more. List free.—B. WOODLEY, Thorne, near Doncaster. r.n.102

BUY LEE'S UTILITY BEES to ensure a crop of surplus honey for 1921. 4-frame Nuclei, 50s.; 6-frame Stocks, 70s., May/June delivery.—J. H. LEE, "Little Bowden Apiary," Burgess Hill, Sussex. r.n.93

"THE APIS CLUB."—If you have a live interest in bee culture as a science and a craft, you should join THE APIS CLUB. Membership fee, 10s. 6d. per annum, and includes the free delivery of "THE BEE WORLD" as published.—For advantages of membership write to the Secretary, THE APIS CLUB, Benson, Oxon. r.o.37

YOUR SUREST SAFEGUARD against disease—Atkinson's fine Italian strain.—Bee Park, Fakenham. r.n.109

8S. ITALIAN 1921 fertiles, May; 8s. 6d., April.—ATKINSON, Fakenham. r.n.110

"RESERVE 30 Queens for this season's work. Your Italians are 'it.'—S. C. L." Thanks S. C. L., I will.—ATKINSON, Fakenham. r.n.113

ADMINSON'S BEES.—Six-comb Stocks for disposal in rotation between last week in May and mid-June; minimum strength, four combs of brood; guaranteed healthy and worthy of any apiary; price £5 5s. each, carriage paid.—ADMINSON, LTD., Benson, Oxon. r.97

QUEENS, QUEENS, QUEENS.—Pure Italian; none better.—ATKINSON, Fakenham. r.n.111

QUEEN strain counts, price too.—Write ATKINSON, Fakenham; secure both. r.n.112

BUCKINGHAM BROS., Metal and Wire Workers, Warwick Road, Luton.—Try our Swarm Catcher, 4s. 3d. Collapsible Galvanised Chicken Runs, will not rust, made in four parts, 8s. 6d., carriage forward. r.n.114

BREEDER QUEENS. THE FOUNDATION OF SUPREMACY.—A limited number of Adminson's renowned *Breeder Queens* (pure Carniolans, Italians and Dutch, guaranteed about one year old) available in rotation during June and July for commercial breeders and research students; price per Queen with one comb nucleus of her progeny, £2 10s., carriage paid. A unique speciality and value.—ADMINSON, LTD., Benson, Oxon. r.n.53

BOOK NOW!—I still have a few Stocks for disposal. Pure Italians on 8 frames, £5. I make a speciality of 3-frame Nuclei, and can strongly recommend them as the very best value, £2 10s. Disease free. Cash with order.—A. WILKINSON, Farnham, Saxmundham, Suffolk. r.n.57

1921 PURE CARNIOLAN QUEENS.—Whether home-bred or imported, our Carniolan Queens are derived from Jan Strgar's famous Alpine strain, for which we have the *Sole Agency* in the United Kingdom. Price (from May onwards), 17s. 6d. per Queen; safe delivery guaranteed. A decidedly modest outlay on an investment which more than repays.—ADMINSON, LTD., Benson, Oxon. r.n.54

ADMINSON'S SEMI-COMB. — For durability, utility, price of constituent materials, and excellence of manufacture, Adminson's Semi-Comb is by comparison one of the *cheapest* apiary appliances and yet one of the valuable assets for an up-to-date apiary.—ADMINSON, LTD., Benson, Oxon. r.n.175

"WIGHT" DISEASE.—Prevention and removal. Invaluable advice, 5s. 6d. "An eye-opener."—ALF. RYALL, Whiteway Apiary, near Camp, Stroud. r.n.169

KAT-A-LOG ahead of all.—MEADOWS, Syston, Leicester. r.n.176

ENSURE a good honey crop this year by purchasing our noted 6-frame Italian Stocks. Catalogue free on application.—PEARSON & GALE, Marlborough. r.n.173

BUCKFAST QUEENS are the very best. Descriptive Circular free on application.—BROTHER ADAM, Buckfast Abbey, Devon. r.m.115

SWARM CONTROL.—The secret of profitably managing prolific bees lies in the *Brood-Hatching Chamber*, the appliance that made the Dutch bee and other large breeders pay. Hundreds in regular use all over the country and abroad.—ADMINSON, LTD., Benson, Oxon. r.n.170

ITALIAN QUEENS direct from Italy.—Address, ENRICO PENNA, Bologna, Italy. Price List for 1921 on application.

COMMERCIAL BEE-KEEPING. — Adminson's Breeding Hive with B.H.C. remains unsurpassed for commercial breeding and honey production; light, simple, economical, progressive.—ADMINSON, LTD., Benson, Oxon. r.m.120

ADMINSON'S SEMI-COMB.—The latest achievement of scientific bee-keeping and modern engineering. In British standard, 16 in. x 10 in., and shallow sizes, the last with drone cells. Try it for the production of extracted heather honey.—ADMINSON, LTD., Benson, Oxon. r.m.119

Our Bees and Queens are Second to None. Catalogue free. PEARSON & GALE, Marlborough.

The Bee Diseases Bill.

In the BRITISH BEE JOURNAL of January 6 last we told our readers where copies of the above Bill could be procured, and hoped it would not be necessary for us to occupy space in printing it. We have, however, since then received a number of inquiries as to where copies may be obtained, and have therefore decided to print the Bill, and give a full copy herewith. We advise our readers to preserve it for future reference.

A Bill intituled an Act to Provide for the Prevention of the Introduction and Spread of Pests and Diseases affecting Bees.

Be it enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

1.—(1) The Minister of Agriculture and Fisheries (in this Act referred to as "the Minister") may make such orders as he thinks expedient for preventing the introduction into England and Wales of any pest or disease affecting bees, and for that purpose any such order may prohibit or regulate the importation by post or otherwise of bees, and any articles or appliances used in connection with bee-keeping, and any other thing whereby any such pest or disease may be introduced or spread: Provided that the concurrence of the Postmaster-General and of the Commissioners of Customs and Excise shall be required with respect to any orders so far as they relate to matters affecting the Post Office or the Customs respectively.

(2) Any bees, articles, or appliances imported in contravention of an order made under this section shall be deemed to be prohibited goods within the meaning of the Customs Consolidation Act, 1876.

2.—The Minister may, after such consultation with persons interested as appears to him necessary, make such orders as he thinks expedient for preventing the spread in England and Wales of any pest or disease affecting bees, and any such order may direct the destruction by the owner thereof, or authorise the destruction by the Ministry or the local authority of any colony of bees so affected, and any receptacle (other than a serviceable movable comb hive) in which there are or have been bees so affected, and the contents of any receptacle which is being used or has recently been used for bees so affected. The Minister or local authority may in respect of any bees or receptacle so destroyed by the Ministry or the local authority, as the case may be, pay such compensation as the Minister or local authority may think fit.

(2) Orders under this section may authorise the destruction by the Minister or the local authority, subject to payment by way of compensation of the value thereof, of bees or any other thing which, in the opinion of the Minister or the local authority, may cause the spread of any pest or disease affecting bees, or may become infected by any such pest or disease, and may prescribe the mode of destruction, and the manner in which the value is, in default of agreement, to be determined for the purpose of compensation.

3.—An order under this Act may impose fines recoverable on summary conviction for offences against the order, not exceeding ten pounds for any one offence.

4.—Any person who sells or offers for sale or removes or permits the removal except for the purpose of destruction, of any bees affected with a pest or disease to which this section is applied by an order made by the Minister, or any receptacle in which bees so affected have been kept by him, unless such receptacle has been effectually disinfected, shall be liable on summary conviction to a fine not exceeding ten pounds, unless he shows to the satisfaction of the court that he did not know and could not with reasonable diligence have ascertained that the bees were so affected.

5.—(1) The local authorities, for the purposes of this Act, shall be the councils of the counties and county boroughs, and any expenses incurred by a local authority under this Act shall be defrayed in the case of a county council as part of their general expenses and in the case of a borough council out of the borough fund or rate.

(2) Every local authority may appoint such inspectors and other officers as they consider necessary for the execution and enforcement by the local authority of orders under this Act, and assign to those inspectors and officers such duties and salaries or allowances, and may delegate to any of them such authorities and discretion as to the local authority may seem fit, and may at any time revoke any appointment so made:

Two or more local authorities may concur in making any appointment which a local authority is authorised to make under this section, and may agree as to the apportionment in the case of such joint appointment of the expenses thereof among such local authorities, and any person so appointed shall have all the powers and duties of such appointment in the area of each such local authority.

(3) The appointment of an inspector shall be subject to the approval of the Minister.

(4) Every local authority and their inspectors and officers shall send and give to the Ministry such notices, reports, returns, and information as the Minister requires in relation to the exercise by the local authority of the powers conferred by this Act.

(5) An order under this Act may be published by a local authority in such manner as the local authority may consider best fitted to ensure publicity for the same.

6.—(1) An inspector of the Ministry or of the local authority may for the purposes of any order under this Act at any reasonable time enter any building or place wherein he has reasonable ground for supposing that there are or have recently been bees affected by any pest or disease, or that any order under this Act has not been or is not being complied with, and may examine or cause to be examined, in the presence of the owner, occupier, or person in charge of the premises if he desires to be present, any bees, honey, or comb on the premises and anything thereon used for or in connection with bees:

Provided that—

(*a*) the powers of an inspector of a local authority or authorities shall not extend outside the district of the local authority or authorities; and

(*b*) an inspector entering any premises shall, if so required by the owner or

occupier or person in charge of the premises. produce his appointment for inspection.

(2) If any person without lawful authority or excuse (proof whereof shall lie on him) refuses to any inspector, acting in the execution of this Act or of an order under this Act, admission to any building or place which the inspector is entitled to enter, or obstructs or impedes him in so entering, or otherwise in the execution of his duty, or assists in any such obstructing or impeding, he shall be liable on summary conviction to a fine not exceeding ten pounds.

7.—*The expenses of the Minister under this Act to such amount as may be sanctioned by the Treasury shall be defrayed out of moneys provided by Parliament.*

8.—(1) This Act shall apply to Scotland subject to the following modifications.—

(*a*) Except where the context otherwise requires, the Board of Agriculture for Scotland shall be substituted for the Minister and the Ministry, and references to Scotland shall be substituted for references to England and Wales.

(*b*) Subsection (1) of the section relating to local authorities shall not apply, and the local authorities for the purposes of this Act shall be the local authorities under the Diseases of Animals Acts, 1894 to 1914, and the expenses incurred by any local authority under this Act shall be defrayed in like manner as expenses incurred by a local authority under the said Acts.

(2) This Act shall not extend to Ireland.

9.—This Act may be cited as the Bee Disease Act, 1920.

A Dorset Yarn.

The first half of last week bees gathered a lot of stores. In two stocks the shiny liquid can be seen in the sections; this must be wholly gooseberry, it has all been collected in a few days. Another stock was given a rack of sections, one with a small patch of capped honey in the centre; this brought the bees up at once, and they have kept up in them since. Honey tempts them up; they come up to these extra stores given them and begin at once to uncap the cells, but they soon reverse this by bringing in other stores, possibly some from beneath to give the queen more room for eggs. It certainly is cheering to see them so early taking honey up in surplus racks; it is only the strong colonies that do this, weak stocks seem to "mark time" so long before they show the numbers, for it is numbers that count with bees; they keep better warmth over young brood, as well as having extra workers to harvest the nectar. I am still convinced that the best place for bees is on a fruit farm. Those who live near the fruit-growing centres in England and Scotland must get a great weight of surplus, far beyond those that have only dairy farms around them.

Fruit blossoms early; gooseberries and currants, plums, peaches, and cherries, pears last a long time; the fruits of jargonelle can be seen swelling when flowers of others are only just open. In farming lands generally there is no wealth of food for bees till turnips blossom. These are largely eaten off by sheep before they blossom. Near us they are very pretty in full bloom, the sheep have not got over them fast enough, and the farmer is mowing them off for his cows. It it is this great weight of early fruit blossom that gives the bees so much to build up their population early; though many of them have plenty of stores, they are always eager to collect more, and with our lot it is these extra-strong ones that are sending out so many foragers.

The number of blossoms on a two-acre patch of gooseberries must be many millions; the fruit from them when gathered is several hundred dozen lbs. (these are gathered green in 12-lb. chips). It is easily seen that this field has greatly improved by taking down the stocks of bees to them; the early swelling of the fruit shows that bees pollinated them as soon as open. Miller writes that the pollen is somewhat adhesive, so that it could not be blown by wind on to the stigmas. I conclude that the bees have seen to this delicate matter for me.

We had a sharp frost on Friday morning after hail; this may hurt some of the flowers (am hoping that plums and pears are well ahead and out of danger from frost). In some miraculous way the pollen is conducted from the stigmas to the ovaries and the living properties given to the young seed in embryo collected in the ovaries. All this is very wonderful to the simple yarner of bees in Dorset.

Have had sent me by a friend a few seeds of the new annual sweet clover, to try them for stock and bees. If the stock takes to it, we can easily leave some to flower for the bees. We will save all the seed possible from this. He is trying it in the rich Devon soils. All this seems to be a move in the right direction, and it will serve as food for stock, and supply a surplus for bees. We grew the yellow melilotus many years ago; it was an attraction for bees, but it was coarse and woody for hay. This annual variety may be more tender and sweet for stock. In Cassell's "Natural History of Plants," only the yellow and white varieties are mentioned. "These are both propagated by seeds and divisions, very attractive to bees." There is no mention of an annual variety at all; but if it is a good plant for bees it does not matter if it is an annual or a perennial.

[The annual sweet clover is a new variety, hence the difficulty of obtaining seed. Sweet clover (Melilotus) has been known for years, and is a biennial, and seed of this may be obtained from Messrs. Sutton & Sons, and probably other leading seed merchants. Several correspondents confuse the two varieties, and have sent us a note to say where seed can be obtained, for which we thank them, but the variety mentioned is *not* the *annual* sweet clover.—EDS.]

One of your writers gives the dandelion as a good bee plant. Have not found it so here, but the *Hieraciums*, with smaller flowers, which grow much taller, are visited the whole season. They are particularly noticeable in fields laid up for hay; even after the hay is out these plants send up their flowers, and cows will eat them off with great avidity. Though the

dandelion flowered early this season, have rarely seen bees on them; it must be that more nectar is to be found in other flowers at the same time, for it is so with the Lady's Smock, *Cardamine pretensis*. When first open bees visit them regularly, but when other members of the Crucifer family open they leave their earlier love for more nectariferous ones, such as turnips, brassicas, and wallflowers; the higher perfume of nectar in these takes them from the other, and the more nectar in the flowers the greater the scent that will attract—that is the deduction I make. Am very glad that our pasture fields are not full of dandelion, such as is shown in Mr. Root's book.—J. J. KETTLE.

Jottings from Huntingdonshire

I have spent the last week away, having gone on a cycle tour into Oxfordshire and Gloucestershire, visiting on my outward and inward journeys Bedfordshire, Buckinghamshire, Berkshire, and Northamptonshire. I saw many bee-hives but few bees, various types of country, and many flowers. Some parts were quite as forward as here; others were a good fortnight behind us. Soil would appear to have as much to do with forward vegetation as climate. My daughter promised to write the jottings during my absence, but has been unable to do so, and as I find a pile of correspondence awaiting me I must deal more fully with my journevings next week.—E. F. HEMMING, Steeple Gidding.

Bee Experts.

By D. M. MACDONALD.

At an early stage of its existence our National Bee Association inaugurated a system of examination to encourage a love of beekeeping, and to give an impetus to a study of the subject in a thorough and systematic manner. These examinations have been carried on now for a long period of years, and the proud title of "Expert" is, as time passes, being more and more highly valued by beekeepers who wish to be up-to-date. Those who desire to quality for carrving on work under our County Councils deem it essential to success in obtaining a post previously to pass all the three stages of preliminary, intermediate and final. Only when the last is attained does one feel that he really deserves the name of "Expert." As the years pass the value of these certificates increases. Authorities all agree that the preparation for a pass tends to make better bee-keepers, and by the profession as a whole it is realised that the good effect on any average man or woman of the necessary study for undergoing the ordeal of a far-searching examination yields all-round good results. The qualifications and tests required to pass for a third class or preliminary are not very severe, but if it be remembered that the oral examination practically covers the whole field of apiculture one can appreciate the very great advantage derived from a careful and systematic study of the bee-books read, and an energetic practice of the various manipulations before the trial comes off. One knows a good deal about bee-keeping; he may have even practised it for many years and can get along fairly well. Sometimes, however, in a blundering way, because he has not set his mind thoroughly to digest the extensive mass of facts he has as yet only loosely acquired. A good deal of matter is floating about somewhere in his mind, but he has never assimilated it properly. It is in a fluid or chaotic state. In his grind for passing the examination he applies system to collect, assort, arrange, and unify all into a connective whole, ready to come to his aid at his beck and call. The first condition of undigested facts floating loosely and wanting coherence, means largely chaos. The methodical arrangement and more definite co-relation of these facts mean precise and available knowledge. Therefore, it follows that the bee-keeper who studies for even the preliminary examination is a better bee-keeper on account of the weeks or months of study and application he has given to the subject. He, or she, has a better grip of the whole practice and system of apiculture, facts being, so to say, at one's fingers' ends following the close study and application.

Believing that example is more potent than precept, our authorities are not content with simple grind or book learning when preparing for the ordeal of examination. We have several schools of bee-keeping in various centres, and candidates wherever possible take a course of instruction in one or other of these. Theory and practice in these educational centres go hand in hand. Actual practical lessons go to supplement book knowledge. Excellent results follow. The preliminary tests are more thoroughly met, and both in manipulating work and in the answering of oral queries, such students generally excel. Their work is more precise, their knowledge is more systematically arranged. All verbiage is eliminated, answers are given in precise and laconic terms, and the neatness and efficiency of operations shows the value of the special training undergone.

This preliminary examination is a mere preliminary canter, undertaken to get into the proper pace as it were, but as it consists of oral questions and answers practically covering the whole field of apiculture, as well as general handling of bees, and opening and examining hive interiors, it can be made very searching. A skilled examiner very quickly spots any weakness in either branch, consequently the glib candidate who answers parrot fashion, or the one who relies on a multitude of words to screen a want of knowledge very frequently is relegated to the list of failures. These examinations are held during the height of the honey season, in some apiary among the bees, and generally in connection with County Association Shows. Only candidates who pass successfully in these tests can sit the examination for the intermediate certificate, and, again, only those who pass in this second class can proceed to the final examination. The paper work of these two is based generally on the

same syllabus, but, of course, the tests in the final are much more severe, and the candidates sitting this last must show superior scholarship.

"Hints to Candidates" may form an extension of this contribution.

North Cheshire Notes.

Reading your correspondent's inquiry (10425) respecting planting lucerne for bees, has led me to pen this short article respecting forage crops and bees.

If Mr. Cheyne is thinking of his pony first and bees afterwards, let him by all means plant lucerne. Lucerne will grow on almost any soil in which a fair amount of lime is present If rhododendrons, heaths, and sorrel grow freely in his neighbourhood, lucerne would probably not do well. If seed was sown now he might get a blossom in the autumn, but it is usually sown late in summer in clean soil, and will then flower and be fit for hay the following May, and if kept free from weeds, and occasionally manured, would yield two crops per year for five or six years. As a bee plant it is only fair. If Mr. Cheyne's land is deficient in lime (which can be known if the plants above mentioned grow freely), alsike clover with a mixture of rye grass would do better, and alsike is a splendid honey plant. Of all the forage crops grown, sainfoin is the yielder of honey *par excellence*, but it will only grow in certain parts of the country and on light soil. Given a soil it likes, and fine weather, it produces nectar as no other plant I know of does. A field of sainfoin in bloom will attract all the bees for at least two miles around, and they will scarcely look at any other flowers in the meantime. The seed is sown with the corn (oats or barley) in the spring. It produces two crops of hay annually for four or five years, the second crop being much shorter than the first. If Mr. Cheyne wants a permanent pasture he had better sow a mixture obtainable from any seedsman and specify for a good proportion of wild white clover in it.

I append a concise list of farm crops and their value as honey plants. It may be of value. First the Legumes.

Sainfoin.—Prolific yielder of honey of an amber colour and fine consistency and flavour. The capping of cells is a bright yellow over this honey. Usually cut for hay as soon as the first flowers appear, but where grown for seed or sheep pasture gives a flow of five or six weeks. Honey granulates freely.

White Dutch Clover, Alsike Clover, Wild White Clover.—These may be classed together as honey yielders. They are grown almost everywhere, and yield transparent honeys of quality *par excellence*. To my mind, white clover honey is *the* honey. But I have never had an opportunity of sampling the heather jelly one reads of.

Crimson Clover, or Trifolium.—This is a splendid honey yielder, but is not much grown. It yields only one crop of blossom, being an annual. Where grown for seed it would yield about three or four weeks. Honey midway between white clover and sainfoin.

Red Clover.—Yields nectar freely, but only Bumble bees can work the first crop of blossom. Hive bees sometimes get some from the second crop, but of no appreciable quantity.

Peas and Beans.—Of these bees favour beans mostly. The honey from these is very dark and thick. Starts to granulate soon after taken from the hive, but is a long time completing granulation.

Lucerne.—Only grown in small quantities. Not a great bee flower.

The Brassicas—Cabbage, Turnips, Rape, Mustard, etc.—Bee-keepers near where any of these are grown in quantity for seed have a splendid early flow. They come into flower in May and last about a month. The honey is very fair, but is of no use in sections, as it granulates sometimes in the comb before being taken off the hive. It granulates very coarsely, but on re-liquefying will remain some time clear.

If the Editor thinks these notes of any value I will give on some future occasion some notes of the honey-yielding wild plants I have observed.—D. J. HEMMING, Appleton, Cheshire.

[Such information is always of value, and we shall be pleased to have further brief notes from our correspondent.—EDS.]

American Sweet Clover.

I notice that this bee-plant has again come into prominence in the columns of the "Journal."

It is unquestionably a clover which deserves to be more widely known, as it is in itself an attractive plant and easy to cultivate.

The yellow variety is rather the prettier of the two.

This season I am attempting to get it established in one or two fresh spots on the hills, where, if it flourishes, it will be an additional source of nectar to the bees through June and July.

Rabbits are, however, rather fond of the tender green leaves of young plants, and therefore it will need to be protected till firmly established.

Having written last year for seed of the new variety without success, as it appeared to be rather scarce, I was delighted a few days ago to receive a small parcel of this kind.

I am planting some myself, and if any of your readers would like a little of the seed, and will enclose stamps for postage, I shall be pleased to send them some as far as it will go A. H. BOWEN.

Coronation Road,
Cheltenham.

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of February, 1921, was £993

From a return furnished by the Statistical Office, H.M. Customs.

Situation Wanted by Ex-Soldier.

An ex-soldier, demobilised in 1919, who is in a situation in London as chauffeur-mechanic, is anxious to get into the country on a bee or fruit farm. Is an experienced bee-keeper and a bee lover, having kept bees for 16 years, making all his own hives, also understanding poultry rearing, and can do gardening, is an abstainer, married, with one child, and would be pleased to hear of a suitable situation in the country. Highest personal references can be given. Possibly some of our readers may know of a vacancy, and will communicate with Mr. E. Beale, 3, Grosvenor Garden Mews North, Victoria, S.W.1.

Echoes from the Hives.

This district is very badly affected with Acarine disease, while Southwick—over the other side of the hills—is practically wiped out.

Last autumn I secured three driven stocks which had not much stores at packing-down time, and I was obliged to keep cakes of candy—Mr. Smith's "Flavine"—over the frames all winter and they have never been touched with the slightest trace of disease.

These stocks are located in a very exposed place, which I think has something to do with the matter, for most of the bees which have been lost here have been at the back of walls or under hedges, which I think might *agree* with the mites. Anyway, I suppose this would be worthy of investigation and experiment.

I notice Mr. Kettle and Rev. Hemming speak about an abundance of pollen coming in, but they do not make mention of nectar. About a fortnight ago I picked up four bees before my hives which had got chilled coming in and succumbed. I intended to dissect them for micro purposes, but they were quite unmanageable owing to the abundance of nectar they contained, which became smeared over the glass. I am sure the nectar would be nearly the bees own weight.

The winter here has been very mild. We have only had snow once, and that fell for about half-an-hour and melted as it reached the ground.—JOSEPH C. WOOD, Dalbeattie.

March 24, 1921.

[We thank you for the cutting. It is amusing, but have not room for it at present. —ED.]

Kingston and District Bee-Keepers' Association.

With reference to report of our annual meeting, the Committee has since met, and will recommend to the members that this Association merges with the County Association as a branch covering their old area—Kingston, Surbiton, Claygate, Oxshott, Harn, Esher, the Dittons, and East and West Molesey. — B. CARTER. Hon. Sec., Public Library, Kingston-on-Thames.

British Bee-Keepers' Association.

The annual general meeting and conversazione were held at the Central Hall, Westminster, on March 17, 1921. There was a large attendance at which the chair was taken by Mr. T. W. Cowan. The minutes of the last annual general meeting and the special general meeting were read and confirmed.

In considering the report for the year the chairman made the following remarks:—

INCREASED SUBSCRIPTION.

In connection with the report, the first point is in regard to raising the subscription. This has been done by most other Associations. As expenses are constantly rising it was thought by the council that the proper way would be to raise the subscription to 10s. 6d. It is thought probable that it will reduce the number of members, but it is hoped that it will not have any effect upon the funds.

AFFILIATED ASSOCIATIONS.

There are now 45 Associations affiliated to the B.B.K.A., and there are others which are expected to affiliate before long. This, once again, reaches the highest number of affiliated Associations.

THE SEASON AND DISEASE.

Last year was a very bad season, followed by a bad winter. From accounts the bees are not doing so badly. With regard to disease, it is not exterminated, but very much better. Investigations by Dr. Rennie have thrown new light on the subject. Dr. Rennie is not the only one investigating it. Mr. Snelgrove has been working since 1919, and has found something which may have some connection with the disease. It is in the experimental stage at present. It is most likely that we shall soon find a remedy.

LEGISLATION.

The Bee Diseases Bill has been held up for pecuniary reasons. Just at the time it was presented there was an outcry about expenditure, and the Government decided that expenses must be cut down. It does not mean that the Bill is entirely lost, but only shelved for the time. The Ministry of Agriculture were trying to get an advisory committee together to represent bee-keepers, but this also was abandoned. It is hoped that in course of time the committee will be formed.

MR. BEVAN.

I should like to say how much we regret the loss of Mr. Bevan. He was a good, practical man, and in whatever he set himself to do he always carried out well. We are very sorry to lose these old members, yet it is gratifying that there are young people coming along to fill the gaps. Mr. Cowan stated that he was the only surviving member of the original B.B.K.A. (Applause.) The members of the council now are young men compared to him.

FINANCE.

The subscriptions for the year have increased considerably. On the other side the expenditure has been very much greater. Printing and stationery, £71 13s 3d., instead

of £47; clerical assistance from £25 to £50; insurances are the same as last year; postage has increased. We have a balance of £111 19s. 7d., which includes £15 life members' donations.

The reserve fund stands at £335. Everything considered, the balance-sheet stands very well.

EXAMINATIONS.

As regards the examinations, ten had secured the expert certificate, 58 the intermediate, and a very large number gained the preliminary.

INSURANCE.

The insurances show a healthy state; 4,537 stocks were insured in 1919, and 6,299 in 1920.

Mr. Cowan moved that the report and balance-sheet be adopted. Mr. Watts seconded, and it was carried.

Mr. Anderson moved a vote of thanks to the retiring council and officers. Seconded by Mr. Salmon and carried unanimously. Mr. Reid proposed the re-election of vice-presidents, hon. members, corresponding members, treasurer, auditor, and solicitor for 1921. Seconded by Mr. Eales, and carried unanimously.

A ballot for the election of Council for 1921 was then taken, and the following were declared elected:—T. W. Cowan, G. R. Alder, G. Bryden, C. L. M. Eales, G. S. Faunch, A. L. C. Fell, G. J. Flashman, F. W. Harper, J. Herrod-Hempsall, G. W. Judge, J. B. Lamb, E. D. Lowes, W. E. Moss, A. G. Pugh, W. F. Reid, A. Richards, Miss M. D. Sillar, W. H. Simms, Major F. Sitwell, Sir Ernest Spencer, and F. W. Watts.

Mr. Cowan presented the W.B.C. gold memorial medal to Mr. Pearman, won at Royal Show, and the silver medal, won at Grocers' Exhibition.

Mr. Pearman: I have great pleasure in receiving this gold medal, not so much because it is a gold medal, but because it was in commemoration of Mr. W. B. Carr, who was a great bee man.

Mr. Bryden was then presented with the bronze medal, won at the Grocers' Exhibition.

Mr. Bryden expressed his thanks, and stated that his success was due to the secretary and his book. He had now been able to win all the medals in that book, from the top to the bottom of the ladder.

This concluded the business of the meeting.

A veil for the use of lady bee-keepers was exhibited by Mrs. Macrory, Worcester Park.

The conversazione, at which there was a large attendance of members and their friends, was presided over by Mr. T. W. Cowan, and was opened by an interesting address by Mr. G. J. Flashman, on "How to Succeed in Bee-keeping." At the conclusion a number of questions were put and answered.

There was then an interval, during which those present partook of an excellent tea, over which new acquaintances were made, and apicultural matters discussed with such vigour that the room hummed with the conversation like a hive of bees.

After tea, Mr. G. W. Judge gave a practical address on "The Various Races of Honey Bees: Their Advantages and Disadvantages," at the conclusion of which there was a long and interesting discussion, in which a number of those present took part.

A vote of thanks, which was passed with acclamation, was given to the chairman for his continued practical interest in the Association, and especially for making the long, fatiguing journey, at his advanced age, to be present at the meeting. This was suitably acknowledged, and so a most enjoyable meeting was brought to a close.

Durham County Bee-Keepers' Association.

ANNUAL MEETING.

The general annual meeting of the above Association was held on March 12, 1921, at the Central P.M. Schools, Cockton Hill, Bishop Auckland. In the absence of the President, Sir Thomas Wrightson, Bart., who wrote regretting his inability to attend, Mr. John Short, of Hummersknott, Darlington, was voted to the chair.

The minutes of the last general annual meeting were read and adopted.

The financial report and balance-sheet were then read very minutely by the Treasurer, Mr. E. T. Gardiner, covering two years, 1919-1920, who explained that the Association had only the small balance of 5s. 6d. on the right side, owing very largely to the fact that we had not increased our subscriptions like many similar Associations, and that the cost of postage, printing, etc., etc., had been considerably increased.

The Hon. County Secretary then read the report, as follows:—Secretary's Report.—In my report twelve months ago, I returned a membership of 43, and to-day for the year just ended 64, an increase of 21, together with the fact that at the last general annual meeting you accepted the application from the North-West Durham Bee-Keepers' Association for affiliation with us, and as they return a membership of 28, which means that in this county there are 92 individual members affiliated with the Parent Association.

1920 will be, and is regarded by bee-keepers as, one of the worst seasons in this county, for very many years past, little nectar was gathered, except by a few colonies who did well on the moors; I believe Mr Warren took 128 sections from six hives, 90 of which were very good.

LEGISLATION.

I forwarded on May 29 last twelve petition forms on your behalf containing 103 signatures in favour of legislation for bee diseases. I have also recently written 19 members of Parliament, and to date have received favourable replies from 15 of them; the other four have not as yet responded. You will doubtless be aware that this Bill was expected to have been before the Commons before now, but it has been delayed, temporarily, I believe, or, if not, I hope so. I would strongly urge one and all to assist the Ministry to get this proposed Bill through, feeling fully convinced that until some protection is given to bee-keepers we shall never be able to keep a clean bill of health. I hope that this meet-

ing will forward a copy of a resolution protesting to the parties concerned at our disappointment because it has been delayed and asking for its immediate return in the form of an Act.

EXPERTS' CERTIFICATES.

Four members belonging to your Association have obtained the Preliminary Certificate for Proficiency in Modern Bee-Keeping (Third-Class Experts, B.B.K.A.):—Messrs. J. S. Giles, South Shields; R. Casson, Blackwell; H. E. Deacon, Stockton; and John Watson Egglestone, Bishop Auckland. Also the last three, Messrs. R. Casson, H. E. Deacon, and J. W. Egglestone have obtained the much coveted Intermediate (Second-Class) Certificate as well.

The above two reports were adopted as very satisfactory. Mr. John Short moved, and Mr. R. Casson seconded, that the best thanks of this meeting be accorded to the officers for services rendered during the past year.

Mr. J. N. Kidd was then voted to present the certificates for proficiency in modern bee-keeping, and having paid a few complimentary remarks to the recipients present, said: "I believe this is the very first occasion in the history of bee-keeping in this country that the much-coveted second-class certificate has found its way into this county, although I believe some members held the third-class certificate." The recipients then suitably responded

The election of officers for the ensuing year resulted as follows:—President, Sir Thomas Wrightson, Bart., Neasham Hall, Darlington: vice-presidents, M. H. Greenwell, Esq., Spring Cottage, Deaf Hill; Edgar T. Gardiner, Esq., Hoppyland House, Bishop Auckland; A. S. Douglas, Esq., Bearpark; hon. auditor, J. W. Robson, Esq., Bishop Auckland; hon. treasurer, E. T. Gardiner, Esq., Hoppyland House, Bishop Auckland; hon. county secretary, John Watson, Egglestone, "Firbeck House," Hutton Avenue, Cockton Hill, Bishop Auckland; representatives to the meetings of the B.B.K.A., Messrs. J. N. Kidd and J. W. Egglestone, and an executive committee of 13 and two representatives to be elected by the North-West Durham Association.

It was resolved to have a joint meeting (if arrangements can be made with the Northern Apple Cultur e Association) and outing, to be called, "Apple versus Bees Day," to which members of both Associations will be duly notified.

The hon. county secretary then moved the following resolution:—

"That this Association regrets that the Bee Diseases Bill is still delayed, and hopes that every facility will be given so that this measure will receive the Royal Assent, at an early date, seeing that in this county it is very desirable and essential that we have legislation dealing with bee-diseases, as it is utterly impossible under present conditions to effectually check their spread, let alone cure, until we have protection."

Several members spoke of the necessity of this or a similar measure being absolutely necessary, and on the chairman putting the above it was carried unanimously, and the secretary instructed to forward a copy to the Ministry of Agriculture and Fisheries without delay.

Mr. J. N. Kidd then being voted to the chair, we were favoured by a lecture in the schoolroom, on "Ancient and Modern Bee-keeping," by William Herrod-Hempsall, Esq., F.E.S.; expert and adviser to the M. of A. and F., and also the genial secretary, expert and lecturer to the B.B.K.A.—J. W. EGGLESTON.

Sussex Bee-Keepers' Association.

ANNUAL MEETING.

The annual meeting of the Sussex Bee-Keepers' Association was held at the Town Hall, Lewes, on Wednesday afternoon, April 13, under the chairmanship of the Mayor of Lewes (Alderman C. Patrick).

The thirteenth annual report stated that the number of members on the register at the close of 1920 was 239. The annual visit to the members was undertaken by the Association's expert (Mr. F. Kenward), and 200 members were visited. The general condition of the 980 stocks inspected was very satisfactory. The remarkable summerlike weather experienced in the early spring resulted in exceptionally heavy brood production, the change to winter conditions which followed resulting in food supplies becoming exhausted and many good stocks being ruined.

The dreaded "Isle of Wight" disease, although in evidence, presented no alarming proportions. "Crawling" was observed in a few isolated instances. The season 1920 would long be remembered by bee-keepers, whose hopes were justly raised by the crowded condition of their stocks, but these hopes did not materialise and were frustrated by a cold and pitiless July. In a few isolated instances, however, a good surplus of honey was secured. Thanks were expressed to those who had assisted the Association, especially to Mr. F. Kenward for his excellent work as Hon. secretary and expert. The balance-sheet showed an income of £88 18s. 2d., and a balance in hand of £19 0s. 1d.

On the proposition of the Chairman, seconded by Mr. W. T. Cowell (Southwick), the report and balance-sheet were adopted.

Thanks were accorded the officers for their services during the past year, on the motion of Mr. W. Herrod-Hempsall, seconded by Miss Simpson (Horsted Keynes).

The officers for the ensuing year were re-elected as follows:—President, the Duke of Devonshire; vice-presidents, the Right. Hon. Austen Chamberlain, Gen. Sir John Nixon, the Rev. D. L. Secretan, Sir Walter Egerton, Sir Stuart Samuel, Bart., Mr. Randall G. Davidson, Col. J. Templer, and Miss M Savill; hon. secretary and expert, Mr. F. Kenward (Lewes); representative on the British Bee-Keepers' Association, Miss D. Sillar (Buxted); hon. auditor, Mr. W. Hill Hunter (Brighton). The retiring members of the committee were re-elected, with the addition of Mr. J. W. Ray (Southwick).

Mr. Cowell introduced a scheme for the formation of district branches in connection with the Association, with a view to extend-

ing its activities throughout the county. He said the East Sussex County Council had recently taken up the matter, and possibly the West Sussex County Council would follow, and it would be to the advantage of all if the Association extended over the whole area of the county.

After discussion the proposal was agreed to and the working out of the details was left to the committee.

The meeting closed with a vote of thanks to the Mayor for presiding.

After the meeting Mr. W. Herrod-Hempsall, F.E.S., delivered a lantern lecture on "Bee Diseases," in the course of which he gave many useful hints as to the management of bees. The lantern was manipulated by Mr. J. A. Sharpe, and he and the lecturer were heartily thanked for their services.

(*Communicated.*)

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Early Drones.

[10434] On February 27 I was looking at my bees when I caught a queen wasp on top of the hive. I thought it very early for one to be about. On March 5 I had the pleasure of seeing drones flying with the bees. I thought it might interest our bee-keepers, and wondered if it was unusual for drones to be seen so early in the year.—DAVID H. TOMS.

March 6, 1921.

[It is very early for both drones and queen wasps to be flying.—EDS.]

Pasture for Bees.

[10435] I was interested to read the communication (10,425) under this heading. I think Mr. Cheyne will find he has been rightly informed as to the uselessness of lucerne for bees. There are so many kinds, however, that he may stumble on one that the bees can use. Sweet clover or mellilot grows taller than lucerne, though rather more woody by the time it blossoms. The bees like it very well, and the full-grown plant would make good ensilage, but rather hard hay. Sainfoin is an ideal bee plant, and as fodder not far behind lucerne. It will grow on many soils not suitable for lucerne. The light soils round Reading and the brash of the Cotswolds suit it well. Lucerne can be studied on the railway embankments about Rickmansworth. A good, tall forage plant of which I have found the bees to be very fond is alsike, or bastard clover, supposed to be a cross between red and white. That is about the best thing Mr. Cheyne can try so far as one can tell who does not know what his soil is. He can also try crimson clover, *T. incarnatum*, commonly called trifolium. Owing to the bounty of a German correspondent, I have a little seed to spare of seradella, a fodder plant unknown in this country, but much esteemed by beekeepers in Germany. I should call it a half-clover, the blossom a sort of aborted papilionaceous. It blossoms late and comes in with heather, or, of course, instead of heather, in most districts. If a few readers would send me stamped envelopes I would try to send them all a small sample of the seed to try.—G. G. DESMOND, Sheepscombe. Stroud, Glos.

Training Boy and Girl Bee-Keepers.

[10436] In reading the article by Mr. Flashman on "Training Boy and Girl Bee-keepers" (10375), I was rather surprised to find that he regards the Scout's Bee Badge (The Bee Farmer Badge) as practically valueless. I enclose a copy of the badge, and, as you will see, before a scout can pass and receive it he must have the following:—"A practical knowledge of swarming, hiving, hives, and general apiculture, including a knowledge of artificial combs, etc." What is described in the book for the badge is certainly a little scant, but a boy to pass it does not learn from that alone, as he is taught by a bee-keeper, and then examined by a master bee-keeper; in my troop spends a whole year with him, and thus learns by these means much more than can be gained from the book. No examiner would pass a boy unless he thought him fit to keep bees. Mr. Flashman's idea of training boys and girls as bee-keepers is good in regard to those not Scouts or Guides, but this has been done for some years by Scoutmasters for Scouts, the Scoutmasters training several thousands of boys for things yearly. They do their best to get the boys taught any badge they desire, and are only too willing to find someone to teach them bee-keeping, if not bee-keepers themselves. I am myself taking a class of boys this year to prepare them in anticipation of passing the Scouts' Bee Farmer Badge, and I am hoping to get an expert to pass them in it. I am afraid if we wait for Associations to wake up, our boys of to-day will be men. ERNEST SUTTON,

Assistant Scoutmaster.

The Laurels, Rye, Sussex,
April 2

[We thank our correspondent for the copy of instructions for the Scout's Bee-Farmer Badge. There is no indication of the name of the book from which the pages (68 to 78) are taken. The instructions are, on the whole, good, but much in need of revision. We give one or two examples:—"When the swarm has been in the hive for *three or four days if the weather has been fine put on the super*. A super is a *crate* of *sections* placed on the top of the *other frames*. This is for the honey which is to be *extracted from the hive*." No mention is made of shallow frames, though an extractor and extracting are described. In doing the latter we are told, "The honey will *squirt* out of the comb against the sides of the cylinder and *run down through the tap*." Treating of "Feed-

ing." the pupil is told, "The syrup is put in the feeder," but is not told where to put the feeder. There is no mention of diseases, but it is stated, "The greatest enemy of the bee-farmer is the wax moth." We only wish it was. The italics in the quotations are ours, and we have not by any means exhausted the stock of blunders. We are afraid if badges are granted on the groundwork of these instructions there is some justification for Mr. Flashman saying the badge is practically valueless.—EDS.]

Selection of Drones.

[10437] Much has been said and written regarding queen-raising, but we are so apt to overlook what is, in my opinion, an equally important matter, *even if not more so, i.e.*, drone raising.

In order to ensure a strong, hardy, disease-resisting race of bees in this country, more attention will have to be paid to the careful selection of drones for mating purposes than has been the case hitherto.

Breeders of any kind of stock know that the selection of the sire is a matter of vital importance. A good dam is, of course, an important factor, but, no matter how perfect she may be she must be well mated in order to produce good progeny. The same rule holds good in breeding bees, although, unfortunately, it is not always regarded.

Other qualities being equal, colour should not be the deciding factor. Yellow drones, like yellow queens, are pleasing to the eye, but those of a darker shade are sometimes the more virile.

The principal qualities to be considered in the queens used for drone-raising, given in order of merit, are as follows :—

(1) Disease-resisting qualities.
(2) Honey-producing qualities.
(3) Comb-building qualities.
(4) Non-swarming tendencies.
(5) Disposition.
(6) Colour.

During the mating season, our mating apiary should be flooded with these selected drones, which should be flying before any other drones are out of the cells. This is not always an easy thing to accomplish, but it can be done with care and practice.

In purchasing queens we should make it our business to ascertain whether the breeder realises and understands the importance of correct mating. *Raising* queens is a simple matter, as compared with *correctly mating* them.—A. J. HOWLETT, "Sylvabelle," Tring, March 28, 1921.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d. up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

July 20 and 21, 1921, at Cardiff.—Cardiff and County Horticultural Society's Show, Sophia Gardens, Cardiff. Bee section under the auspices of the Glamorgan Bee-keepers' Association. Open Classes.—Schedules to be obtained from the Hon. Secretary, Chas. F. Davies, 5, Borstal Avenue, Cardiff.

Bees in a Wall.

[9923] A neighbour has had in his house wall for several years a swarm of bees. The wall is substantially built of sandstone. For some reason a baulk of timber has been built in, and the bees have made their home in this, presumably excavating to make room. Suppose a modern hive, with sections and foundations were attached to the wall so that the bees would have to pass through, and when they had occupied and used this, break a hole from inside and smoke the bees still in the wall into the new hive. Would this be wise, or can your readers suggest a better plan? C. E. P.

REPLY.—Your plan might answer, but it will be better to put drawn-out combs in the hive instead of frames of foundation; no sections, and only, say, four combs. Fix a Porter bee escape over the entrance to the wall so that the bees can get out but cannot return, and therefore must stay on the combs in the hive. As soon as there are a fair number of bees in the hive give them a comb of brood and, if possible, a fertile queen. We do not think you would be able to smoke the bees out as you suggest, and it would make a mess of the wall inside. Possibly someone can suggest another plan.

G. W. L. (Glos.).—*Disinfecting combs.*—Extract the honey, and soak the combs in disinfectant and water for 12 hours or more. Then with a garden syringe wash out the cells, shake out the water, and hang in an airy place to dry. After soaking, washing and drying you could, as a further precaution, place the combs in an airtight box and fumigate with Vapourising Bacterol, Formalin, or sulphur.

E. H. W. (Bucks).—*Time to super.*—No definite date can be given. The proper time to super depends mainly on the strength of the colony. If the bees are covering the whole of the ten combs they may be supered. It is not possible to say what work should be done every week. What would be right for one district, or even for one stock, might be quite wrong for all others. The right time to do certain work can only be determined by experience, the condition of the stocks, a knowledge of the capabilities of the district, and the state of the weather.

"WYVERN" (Milton Regis).—*Using combs of honey.*—It is not advisable to give the bees stores that have become a little sour. A little mildew will do no harm, especially if sprayed with a 10 per cent. solution of Formalin. Extract the honey and boil it before giving it to the bees, or, better still, use it for making mead or vinegar.

W. C. (N.W.2).—The "bees" you sent are not bees at all, but flies, commonly known as "Drone flies" owing to their resemblance to a drone bee. If one is examined it will be found to have only *two* wings, not four. They do worry bees at times by darting at them in their peculiar manner, but are not classed as a serious enemy.

Suspected Disease.

M. W. T. (Penryn).—The bees had Acarine disease.

Special Prepaid Advertisements.

One Penny per Word.

Advertisements must reach us NOT LATER than FIRST POST on MONDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

APIARY, healthy, modern, five Stocks, 10 Hives, Supers, Sections, Extractor, every appliance, £55; would divide.—47, Hazelhurst Road, King's Heath, Birmingham. o.115

FOR SALE, Hives, Brood Chambers, Shallow Frame Crates, Drawn-out Combs, and other material sufficient for 40 stocks of bees. Reasonable offers entertained.—ASHWORTH, Pound Street, Warminster. o.105

FEW SWARMS for Sale, Dutch Hybrids, 10s. per lb.; box 10s., returnable.—DR. ROB, Oatlands Park, Weybridge. o.76

WANTED, May and June Natural Swarms at per lb.; boxes provided. For Sale, superb quality English Honey in 28-lb. tins, also 10 Section Racks with tin dividers.—WYATT, Bishopswood, Chard. r.o.78

FINE, hard-working Hybrids in good hive, Feeder, Smoker, etc., good Skep (with comb), floorboard, super, two old Skeps, floorboards, several started Sections, new Sections, Foundation, six new fitted Brood Frames, £8 the lot.—FISH, 89, Middle Lane, Hornsey, London, N.8. o.79

EIGHT 6-frame strong Stocks Italian Bees, 60s. each, carriage paid; guaranteed healthy; delivery about May 17.—ENNEVER, Oak Avenue, Enfield. r.o.80

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Fertile Italian Queens. May 10/6. Satisfaction guaranteed. PEARSON & GALE, Marlborough.

The Bee Diseases Bill.

An impartial study of the Bee Diseases Bill, reprinted in our last number for the benefit of our readers, will show its great elasticity and adaptability to both present and *unforeseen* circumstances. The last constitute the chief reason of the Ministry of Agriculture for adhering to its text and avoiding absolute definition, where such definition would be foolish. Instead, they invite the Craft as a whole to send representatives to the *Bee Advisory Committee*, which will consist of 16 members with but two nominees by the Ministry; and they leave to that Committee to advise on all matters apicultural, including Legislation for Bee Diseases. This assuring guarantee of fair play has removed practically all scepticism from the ranks of those who support Legislation in principle, though not necessarily in agreement with all the provisions of the present Bill. Consequently, the ranks of the promoters of Legislation are stronger than ever. It is quite possible also that prior to the sitting of the *Bee Advisory Committee*, the Ministry will consent to the convention of a second representative conference of bee-keepers for settling any controversial questions that have arisen since the first Conference held early last year and duly reported in the JOURNAL.

We had occasion before to refer to the inadequacy of Legislation in parts of Canada, owing to insufficient powers and the need for more education, which should always go hand in hand with disciplinary measures. We also referred to the boon of Legislation in New Zealand, where adequate powers for the control of bee diseases are available, and where education of the average bee-keeper is being splendidly carried out. Here is food for thought for all of us.

It is to be hoped that the present industrial situation, which has unfortunately thrown to the background many public questions, will shortly end favourably, so that the cause of Legislation may be rightly brought again to the notice of the Government, and will not suffer by further delay. The duty of the supporters of Legislation is quite plain. *They must make the Government feel their pressure.*

Review.

"*Isle of Wight*" *Disease in Hive Bees*, by John Rennie, D.Sc., P. B. White, B.Sc., and Elsie J. Harvey. Transactions of the Royal Society of Edinburgh, published by R. Grant & Son, Edinburgh, price 9s.

This consists of a series of four papers communicated to the Royal Society of Edinburgh, on November 1, 1920, describing the work carried out by Dr. Rennie, of the Parasitology laboratory, University of Aberdeen, and his collaborators on the above disease. The authors point out that although the attention of bee-keepers was drawn to this disease in 1904, periodic losses of bees of a serious character are on record, dating as far back as the middle of the eighteenth century. Investigations have been carried out by various workers since 1907, into its cause, which was attributed to the protozoan *Nosema apis*. It was, however, first noted by Mr. Anderson, of Aberdeen, that in many cases where the characteristic symptoms of "Isle of Wight" disease were unmistakably present *Nosema* was not found. This led to further investigation and resulted in the discovery of a parasitic organism of the family *Acharea* invading the respiratory system of the adult bee, which after exhaustive investigation the authors now bring forward as the causal agent in the disease. It is a hitherto undescribed mite, identified by Dr. Rennie, and named by him *Tarsonemus woodi*. It was first observed in December, 1919, when a single example was found in a portion of trachea, in a preparation of the thoracic glands from a colony showing no signs of disease. In the following May one of the investigators (Mr. White) made the discovery that mites in all stages of development occurred in certain of the major thoracic tracheæ of "crawling bees." This led Dr. Rennie to examine bees from a highly prosperous colony, and after examining 12 of these, two were found harbouring the mite in question. Thus it was observed that the distribution was not limited to those bees of stocks regarded as sick, and the authors say, "we are able to announce that notwithstanding variations in the course of the disease in different stocks, we regard it as established that there is an invariable association of the parasite with diseased stocks."

The mite *Tarsonemus* occurs in that part of the tracheal system connected with the anterior thoracic spiracle. Parasites in all stages of development may be found together. In the smaller branches these are occupied as far as the diameter will permit, and when it becomes too small, a single individual may be found blocking the tube. Thus it is that breathing is stopped, the bee is unable to fly, and crawling is the result.

In the examination of 250 stocks from different parts of the country, the parasite was present in every one of them. The inquiry involved the examination individually of 700 bees at least, and this showed that in every case exhibiting the familiar symptoms of "Isle of Wight" disease the parasite was

present, and no exception was found. Of 140 stocks, believed by the owners to be healthy, 50, or nearly 36 per cent., harboured the parasite. A table is given summarising the results of the examination of bees for *Tarsonemus* followed by records of a large number of stocks. This alone shows the extent of the work undertaken. Except in one doubtful case, brood was not found infected with *Tarsonemus*, nor was this found in the youngest of adult bees whilst the infection is most marked in the older bees, and except in the incipient stages it has not been found in nurse bees whose adult life is short. Drones suffer equally with workers. Ten queens out of fifteen diseased colonies were found to be free, while the remaining five harboured the parasite. It has been noticed that a characteristic of the disease is that the queen usually survives until the colony becomes extinct. This Dr. Rennie thinks is due to the fact that she remains within the hive, as it is known now that workers affected with the disease may live for months after they are incapable of flying.

Dr. Rennie says that the disease may be maintained by infection of a few members of a colony by contact with a single bee carrying mites, which has mingled with the cluster. Another way is repeated or multiple infection continued from the outside over a considerable period of time, the disease spreading from many foci. Robbing is fruitful in spreading the disease, and if allowed to become rife the extinction of the colony is practically inevitable.

The pathology of the disease is very fully treated by Mr. White in the second paper, and he shows that through closure of the first spiracle of one side, a condition of crawling is induced, and may occasion atrophic changes which are only known to occur in "Isle of Wight" disease. When the first pair of spiracles is closed, it results in rapid death. The pathological syndrome of the disease is complex, and, apart from the sapping of host fluids and the probable injection of a venom, the mites may impair the mechanism of the bee, and through the influence of these factors the power of flight is lost, and the death of the bee imminent, as she is unable to return to the hive. In rare instances individual bees may recover, being abandoned by the parasitic brood.

In the third paper Miss E. J. Harvey treats on the experiments of infection with the parasite, and in the last one Dr. Rennie deals specially with the natural history of the genus *Tarsonemus*, and the particular organism associated with the disease which he has discovered and named *Tarsonemus woodi*, and which in his conclusions he has "good grounds for regarding this as a species of specialised structure in relation to the particular habitat in which it lives." The majority of the species of *Tarsonemus* are found upon plants, but *Tarsonemus woodi* appears to be the only species known to occur on insects. Dr. Rennie's discovery of it as an animal parasite of the hive bee is, therefore, an important one, and is a significant advance in the knowledge of mites, apart from its connection with a disease, which has for so long puzzled investigators. It appears that this disease, which Dr. Rennie suggests should be called Acarine disease, is confined to these islands, for the limited bees obtained, so far, from outside Great Britain, on examination were found free from the parasite.

In view of the importance of Dr. Rennie's work to bee-keepers, we congratulate him on his perseverance and devotion with which it has been accomplished, and on the practical help given him by his collaborators. The papers are accompanied by three plates of illustrations which help in following the descriptions of the development of the parasite and the various pathological changes in the progress of the disease. We consider the work a very valuable addition to the literature on the subject, and recommend those who are interested to obtain a copy, as obviously in a review of this sort a great deal of valuable detail must be left out. We would also like to acknowledge the part taken by Mr. A. H. E. Wood in helping to supplement the grant of the Development Commissioners for carrying on the investigations.

A Dorset Yarn.

On the way back from the Dorset annual meeting, at Dorchester, a party from East Dorset called at Wood Street Farm to see Mr. Derey's bees, whose house and farm buildings are situated in a delightful valley among the Purbeck Hills. It may appear very lonely to the town dweller, but it is not so to the Nature lover. There is a great deal of woodland and plenty of birds; it is also surrounded by hills to keep off cold winds, and one need not wonder that bees thrive in this delightful valley. In addition to lines of bar-frame hives, he has a liberal sprinkling of late swarms in boxes, which have wintered well, and they are of a jet black colour.

I suppose it is the isolation that keeps this black race from mixing with the brown bees that have now covered the greater part of the country. All writers tell of "English blacks," but when with our lot of Italians and hybrids, some of them lose their blackness, and the young bees come with brown abdomens instead of black. Yet in the Purbeck Hills they are all black. It cannot be the food, for the flora there is the same as ours, and it is not twenty miles away. Some very fine honey is sent to the local markets from these valleys, and it always realises good prices. Mr. Derey had not come home from market, but his daughters showed us the bees. It was rather a hurried visit, but it was very pleasant to see an apiary where bees are kept in both ancient and modern ways. Even the boxes were made to carry sections on the top, and some were left on the whole winter. In years gone by swarms in boxes gave some good sections by only making a bee way in the top in the joints of wood with a knife. Early swarms on seven and eight bars have given early sections, when those that were put on ten bars, unless very big swarms, were longer before going into sections with the surplus; but in

boxes and skeps they make too many drone cells. I remember going to one lot during the war, where bees were in champagne boxes, but the drones were so numerous that the owner thought he had another race of bees, they were so large. The loud hum of so many drones at midday when he was home to dinner made him send for me to see his "large bees," but on going one evening when he was home, I did not see the "large bees," and only noticed the workers. However, on turning up the box, one could see that a very large part of the comb was built large for drones. This lot never made any surplus honey, and the owner said it did not swarm either. A small box with a hole in top had filled up a good many sections, but this is a poor way to get sections compared with bar-frame hives; we find that those with ten to thirteen bars do the most in the honey flow, but those with seven and nine will get up in the sections the earliest.

J. J KETTLE

Jottings from Huntingdonshire

Occasionally I get my leg pulled, but I was not prepared to have it tugged by "Delta S." What have I said that so studious a writer should get me by one of my lower limbs? Mayhap "Delta S." read my jottings of the 7th late at night, taking dozes between the sentences, and so missed the meaning of the context. Although I scribbled those jottings in a railway train I didn't write anything to frighten people. "O that mimical drone"—surely it is clear that I was referring to that peaceful droning hum emitting from any good colony of bees at eventide after the bees have had a super-successful day. [Owing to a printer's error the word given was "mimical."—EDS.] Now a word or two with regard to "queen diseases," which he says did not fortunately spread beyond Steeple Gidding. I did not state this disease as a positive fact but by way of an interrogation to the readers of the "B.B.J.," and if "Delta S." had received a tithe of the correspondence that came my way from bee-keepers who had experienced, last summer and autumn, a singular failing of queens, he would realise that others had feelings similar to mine. The complaint was always that the queen had died or had ceased to lay just when the bringing forth of young bees was so essential. At the time I was in touch with apiaries in three counties, and noted the same—shall I call it?—peculiarity. When one observes something unusual manifesting itself where bees are concerned why not tell it to the world? Without doubt much can be learned, as well as taught, in this way. Two experiences during this month have been new to me. Last August I had an Italian queen and about thirty workers in a box, which I took with me to several places to convince certain sceptics that Italian queens were not the British brown queens under a new name. A late swarm came along, and I dropped this queen with her attendants among the swarm as I was introducing it to a bar framed hive, deciding to let the two queens fight it out. Late in the day though it was, the swarm came out again and settled on a bush quite near. Taken a second time and introduced to the hive, the bees waited until morning and swarmed forth once more. I'd had this experience before—bees sometimes do take a dislike to a hive—so I found another hive, in which the swarm stayed and did quite well until time arrived for uniting to another stock. The hive they objected to I put away. Three weeks ago one of my stocks boiling over with bees needed more room, and as the hive they were in was one marked down for painting and cleaning, I decided to transfer them to the very hive objected to by the swarm a few months ago. Judge of my surprise when in getting this ready I found the Italian queen above referred to still alive, with about twelve bees. Was it the presence of these bees that caused the swarm to leave the hive? My first thought was—what had they lived on? Undoubtedly the honey disgorged into cells on two drawn-out combs by the swarming bees during their one night's incarceration. The conclusion of this is to me still more remarkable. Thinking that though alive neither queen or workers would be much good I left them on their frame of comb which I put next to the hive wall with a frame of weed foundation next, and then transferred the eight combs of bees from the other hive—which bees were Holmewoods. I was quite prepared to see the few Italian bees and queen cast out, and was not surprised when two hours after I saw half a dozen Italian worker bees on the alighting board dead; but I was not prepared for the shock that came the next morning when I saw the Holmewood queen also cast forth. My deductions were that the two queens had met, and both being injured had been cast forth, the bees deciding to raise a young queen, and I carefully looked among the grass for the dead Italian queen. I saw no signs of her. As, however, the other dead bees had disappeared, I concluded a toad had come along and cleared them up. To make sure, I examined the hive, and judge of my surprise in finding her Italian majesty there! the bees being, apparently, delighted with their change of queens. Two days after she was laying, and vigorously too. Is this unique? My second experience was amusing. A Dutch-hybrid stock needed re-queening, and knowing bees with Dutch blood will take to a queen of another breed in April while often at any other time of the year they will adopt the method of supersedure, I sent off to Fakenham for a fertile Italian queen, and received a real beauty. I introduced her, and was away a week. Examining the hive on my return, I found her majesty quite happy and quite disconcerted with the sudden rush of daylight; she went on calmly laying, but she made me smile. She laid her eggs on the sealed combs and then carried them to cells. This I had never witnessed hitherto, and yet there are people who deny that bees do nothing invariably. I promised some remarks re my recent tour, but I must not take up much more space. What struck me most was the

variableness of vegetation. Berkshire seemed most forward in bushes but behind Beds. and Northants, in the larger trees. Buckinghamshire and Oxfordshire are not ahead of Gloucestershire, and, indeed, this county was where trees are concerned, much more forward than all, excepting a portion of Bedfordshire, in the neighbourhood of Woburn Sands. War memorials were a notable feature; some were excellent, others good, some remarkably poor. As for the new houses springing up everywhere, some are being built for outside beauty and inward ugliness, others outwardly a blot on the landscape or models of comfort within, while some had better never have been built. The same may be said of beehives seen.—E. F. HEMMING, Steeple Gidding

Scamped Work and the W.B.C. Metal Ends.

The little device for mounting W.B.C. ends described in April 14th Journal puts point to a serious complaint against the far too common and persistent fault of scamped finish of manufactured goods.

The W.B.C. metal end is a grave offender; indeed, none is worse. Instead of a clean-cut edge in the blocking-out from the sheet tin, nothing but a violent rip seems to fit the production of dividend first—W.B.C. metal end anywhere. When these blocked pieces are folded to form the appliance the result is a badly jagged and sometimes saw-toothed edge of tin in the worst position for a fault of such a character.

To mount a dozen frames with these brutes will tear the fingers of any persevering bee-keeper.

Two days ago an elderly clerical bee-keeping friend begged to be shown how I managed to mount the metal ends. I could only reply it was "by force," and impossible otherwise without mutilating the hands.

Unable to put the metal ends on his own frames, he had put them into service without. Many others will doubtless have found it less troublesome to house their bees on frames without them.

We have, then, the spectacle of one of the most useful little details of hive equipment rendered useless for no other reason than bad and scamped workmanship. It is a far too common experience, and some other details of the bee-keeper's equipment can rightly be indicted with it. There is no option but to pronounce the W.B.C. metal-end as made to-day a brutal piece of work, and a first-class example of scamped work, for a beginning.

To cover up the deficiencies of the manufacturers special devices are a necessity if the consumer is to get efficient, or any, service at all from scamped goods—one expense on to another, a sort of fool's paradise and a multiplication of details which all add to the expense of bee-keeping. No one seems to get back on the real offender. But it should be done or scamped work will become more prevalent. Here is a duty which the British Bee-keepers' Association and all provincial Associations might take up energetically with a view to improvement in manufacture of most essential appliances at fault.

Occasionally W.B.C. ends of bygone days come to light which are a pleasure to mount, well finished, conscientiously honest goods—the aristocrats of yesterday, not the ragamuffins of to-day.

Meanwhile we must "use force" to mount the W.B.C. end. A pity we cannot use force on their makers to compel them to mount with their own hands every ragamuffin they produce. However, this supplementary H.N.W. device will be helpful to many. The difficulty will still remain when the bee-keeper needs to re-end a super from narrow to wide metal ends *at the hive*, with bees in active possession. To be obliged to use force with the fingers, as will be necessary there, is a disquieting feature still. There really is need for the British Bee-keepers' Association and kindred bodies to approach the real delinquents. M. ATKINSON.

Fakenham. April 15, 1921.

Dr. Bonney's Method of Queen Introduction.

Dr. Bonney, the well-known bee-keeper of Iowa, U.S.A., has sent us the following leaflet on his method of queen introduction. In a covering letter he says he has tried it nine times in three years with perfect success, but only in a season of good honey flow. The coming season he is going to try it under all possible conditions. If any of our readers try it we shall be pleased to have their report of how it works and under what conditions it was tried:—

THE BONNEY WAY

to introduce queens 100 per cent. successfully, but remember that queens coming through the mail may be superseded.

Let A represent the colony to be requeened.

Let B represent a hive filled with clean, dry worker combs, nine or ten, with a queen, in a cage, ready to be released by the bees.

Wet both hives with peppermint water. A tablespoonful of essence of peppermint to a pint of water is about right. Two colonies may be united with this and they will not fight.

Now remove A to a new stand a rod or more away, and set B in its place.

Result: The field bees will return to the old stand, and finding an empty hive will invariably accept her.

Thereafter handle A as you see fit, but I leave old queen alone until the new queen is laying, in B, then begin putting the brood from A over B, using a queen excluder. You gain brood at no cost so long as you keep the old queen.

Our present methods of introducing queens fail in from one to fifty per cent. of all cases, and the longer the colony is without a queen the harder it is to have them accept a new one.

I'd like to have you try this out and report to me, or the bee journals.

A. F. BONNEY,
Buck Grove, Iowa.

Later on you may try turning the queen loose when B is put in place.

Kent Bee-Keepers' Association versus Constructive Criticism.

In the B.B.J. of January 27, 1921, there appears a letter, from the Rev. H. Newman, offering, at the invitation of the Editor of "Bee Craft," constructive criticism of the Kent B.K.A. I have been waiting to see a reply to this from the aforementioned Editor, or from some of the satellites of that leaflet. None has appeared, therefore I must conclude that the reverend gentleman has taken all the wind out of their sails, and that his criticisms cannot be answered or explained away on account of their veracity.

The Kent Association has continually boasted of its superiority over all other Associations, and prides itself upon its progressive methods, so that it is very surprising that no one has been able to wipe the floor with the reverend critic.

The fact is that, unless the Association alters its policy, it will, in the near future, be at the foot of the ladder. There are even now many Associations who, without ostentation, are doing far better work for their members and the craft than Kent.

I have been asked by members, "What do we get for our subscription now?" and am met with the following arguments:—In the year 1919 and previously we paid 2s. subscription, and got more advantages and personal attention from the officials than we do now. Later on the subscription was raised to 4s., with a reduction in benefits. We now pay 5s. for less than we obtained for 2s. Does not this point to "something rotten in the state of Denmark"?

As Mr. Newman says, the Association has swarmed and cast to such an extent that it has become so weak that, instead of getting control, it has de-controlled and practically isolated the bee-keepers throughout the county.

Let us go back a few years and see what the old Kent Association did. For a subscription of 5s. per annum the members got two visits per year from the expert, and had "The Bee-keepers' Record" with a special cover containing "Kentish Notes" combined, sent to them free each month. They had an annual general meeting, when bee-keepers from all parts of the county met, made acquaintances, interchanged views and ideas. They had shows, lectures, and other benefits.

To-day no expert tour is carried out. This, I maintain, is one of the greatest services rendered to their members by an Association. What would not the beginner, or even the old hands, give for a visit, chat, and examination of their bees, with advice as to their management during the year, as was done in the days of yore by such men as Mr. W. Herrod-Hempsall and Mr. A. Withycombe, both of whom rendered yeoman service to the old Kent Association?

There is no general annual meeting held now, but district branch meetings, divisional meetings, and, finally, an executive meeting (sounds like a Government Department) in succession hold their meetings, therefore it takes a considerable time to finish off the work—so much so that now, at the end of April, the executive meeting has not been held, and there is no report or balance-sheet yet available for 1920, as per rules, which say it shall be held not later than April. (The latter, by the way, have not yet been printed, let alone distributed to members.)

In the old days an annual report, balance-sheet, and list of members, with their addresses, was issued. The latter is not now printed, therefore it is impossible for a member to ascertain what other bee-keepers reside in his district. It is therefore quite possible for his next-door neighbour to be a bee-keeper and a member without him being aware of the fact.

As for the numerous elementary lectures given, anyone in the county may attend these without becoming a member, as they are now given by the County Council.

In my humble opinion, the hindrance to progress is the issuing of "Bee Craft." It is evident that members' subscriptions are used to subsidise this leaflet, which is sent to every member, whether he requires it or not. Yet of what value is it? One can read the greater portion of the matter printed therein in American or our own bee books or periodicals. In fact, some of the writers simply plagiarise the B.B.J. and "Bee-keepers' Record's" ideas. I know it is treated by the majority of members in my district in the same way that they treat advertisement circulars for pills, soaps, sewing machines, etc., *i.e.*, burn it unopened and unread. I am certain it is not read by more than 25 per cent. of the whole of those to whom it is sent. Why should members find the cash so that some of those at headquarters may satisfy their vanity by posing as clever journalists? From the little original matter that appears, the majority cannot claim to be practical bee-keepers

Why, oh! why should we help to provide a leaflet, the original idea for which was that it should be confined to Kent, for a neighbouring county? Surrey is surely capable of providing its own if the members require one.

To summarise, if the Association wishes to avoid extinction, it must—

(1) Either drop the divisional arrangement and go back to an executive committee with its own secretary, dividing the county into districts, each with its local secretary and adviser, or let each division have its own Association, independently managing its own affairs, and affiliated direct to the British Bee-Keepers' Association.

(2) Have an expert tour carried out, each member to be visited whether he applies for it or not.

(3) Stop fooling with "Bee Craft," and if "Kentish Notes" are desired (all the other matter now printed can be found by those who require it in other literature) revert to the special cover of "The Bee-Keepers' Record," so that those who now exercise their energies in this direction may devote them to other and more useful work. Furthermore, the money now wasted in this direction would provide the funds for the employment of a touring expert.

I am afraid I have trespassed far too much on your space, although I could write much more, but the above will suffice, as an indication of the trend of the feeling in the county, which I have ascertained from many members in my journeyings up and down therein. It is in no carping spirit I write, but with a genuine desire to point out to those in authority wherein the danger lies, for under existing arrangements they cannot come in direct contact with, therefore they cannot obtain the views of, the rank and file of the members. I hope my efforts will have the desired effect, and that ere long we shall have an Association doing *practical* instead of *theoretical* work in the county of my adoption.—GEORGE BRYDEN, Hon. Secretary, Northern Division.

"Isle of Wight" Disease.

Mr. A. J. Ridley's interesting jottings induce me to place the following facts before your readers:—

In 1911-12 I investigated I.O.W. disease, and got into touch with the late Mr. G. M. Stubbs. We worked together with the microscope, and I decided upon the cause of the disease. After coming to this decision a copy of the report then issued by the Board of Agriculture was brought to our notice, and according to this I was wrong in my theory, and the question between us was which was correct.

I decided to stand to my theory, and now the greatest work of finding a remedy had to be tackled.

This was far more expensive than the previous work, but before the season of 1912 was out, I had evolved my No. 1 remedy, and by the spring of 1913 it was evident I was on the right track.

The Board of Agriculture were written to without any satisfactory result. No. 1 remedy is quite unsuited to transmission by rail or post, and as bee-keeping was to me at that time not of the greatest importance I let matters rest.

In spring, 1914, Mr. W. J. Goodrich, of 2, Oxford Street, Gloucester, wrote and asked, might he try my remedy. Fortunately I was able to arrange for his supply. He had three, very weak, badly diseased remnants, all that was left of a large apiary. He treated them with No. 1 remedy, they recovered, and he made increase from them. In 1915 he procured two more I.O.W. disease stocks, treating them with my remedy and placing them amongst his healthy bees. If my memory is correct he repeated this again in 1916, perhaps he will kindly give particulars as he has allowed me to use his name.

He has never lost bees from the I.O.W. disease since he first used the remedy in 1914. I don't know how many stocks he possesses, but a considerable number, as he has filled up his old hives and added on others. All the same, I do not think all bee-keepers can expect the same good results that he achieved.

To explain an hiatus here, I must state that it was not until 1918 I had made recovery enough after my discharge from the army to undertake the lightest work. Bee-keeping met with the approval of my medical board as an occupation, and here was a chance to put my theories into practice. First of all I would wish you to recall to memory the conditions of the years 1917-1918, the urgent call for food, and the amount of money sent out of the country for foreign honey.

I again wrote to the Board of Agriculture, but they replied they were not prepared to pay for any alleged remedy. I could do no more with them, as in my state of health I could not push matters.

At this time I met one of the experimentalists I have an admiration for, Mr. S. H. Smith, of Cambridge. He has put his back into the work of encouraging keepers of bees to be bee-keepers of better bees, instilling some of his own energy into them, and with S. Flavine has given us a remedy which seems to be of value in checking the "mould growths" our brood combs are prone to develop in this climate. Here's luck to him in his further efforts.

Experiment No. 52, which I started last year, and so far proved satisfactory in overcoming I.O.W. disease, can be sent by the usual channels. It has, however, I find one objection, in that it prevents eggs from hatching after its use, the minimum length of time after use being five days.

A number of different drugs and gases have been used in my experimental work, and I have had the same experience as Mr. Ridley mentions with sulphur, the difficulty being when precisely to cut off supply. I need not go further into this here, and the reason why such is the case.

In 1918 I started these apiaries with twelve small shakes of bees and their queens all suffering from I.O.W. disease, and a stock purchased from Mr. Jas. Lee, of Fulbourne, which was placed with these and eventually developed the disease. I later had some Dutch hybrid swarms which developed I.O.W. very badly, and these were nearly all destroyed by me as honey production is my object, and I formed an adverse opinion of them. From these small beginnings of diseased bees in 1918 I have built up my present apiaries with the aid of No. 1 remedy.

I have mentioned about foul brood in previous issues of "B.B.J.," which, put briefly, is to the effect that it is most difficult to treat the combination of foul brood and I.O.W., according to experience I had some years ago.

Candidly I neither believe human beings or insect were intended to live in a continuous state of being drugged; surely nature never intended this, and has given all a natural means of combating disease, selection, perhaps, being the safest, surest and strongest. I have turned my attention to this and have now, I hope, a bee which shows greater immunity than any other I have tried, but it is not immune. Having a remedy for I.O.W., it has been possible to breed this amongst the disease, without incurring the very heavy losses which one would have otherwise incurred. Honey production being my object, returns in honey must be my first plank, and immunity secondary. This particular strain gave me an average crop last year of

forty-four lbs., others giving a very much lower average. I feel at liberty to give these results as the packing of stocks, etc., is too strenuous work, and I am not, therefore, writing an advertisement of the bee. The commercial bee-keeper, where he has the time to keep full records, is in a far better position to test these matters out than the amateur with his small number of stocks, and possibly high or low return from a few stocks of one particular mating.—G. THOMAS, Burwell, Cambs., April 11, 1921.

Bees in Norway.

The Rev. E. F. Hemming, in your issue of March 3, asks whether any reader has been to Iceland, and wishes for information from those who have been on the spot. While not being able to supply information of that kind, I give below two extracts from a book "The Bee in the World," which I am permitted to publish, with the note that they are from "Kuntzsch Imkerfragen."

These two extracts were translated into the international language Esperanto, and sent to me by a correspondent in Germany. In company with bee-keepers in other lands who are interested in the question of an international language, we are elaborating the technical terms of bee-keepers into their most suitable Esperanto forms, and should be glad of the collaboration of anyone in any country who is interested in both subjects. I may say that both are equally fascinating, and equally the means of discovering friends among all kinds of people.

The notes relating to Norway will perhaps interest the Rev. E. F. Hemming, while the remarks about our own country will enable us to see ourselves through others' eyes.

NORWAY.

Norway demands from the beekeeper a greater struggle for existence than Sweden. The moist air and frequent rain hinder the honey-flow of the plants. Bee-keeping there is, compared with other countries, not very widespread. The small number of the stocks is the only reason why, in spite of the poor honey possibilities, a good harvest is sometimes attained. The country's hives, to the number of 21,600, principally straw skeps, are distributed about the southern part of the land. There the bees have partly mountain flowers, but chiefly wild berry flowers, and, among the houses, fruit trees, but no honey plants.

The farthur north one goes, the wilder are the stony mountains, and the less beekeeping appears.

ENGLAND.

Commencing with the vegetation convenient for beekeepers as bee-pasturage: Large parks, pastures, wooded country houses, large fruit gardens, and especially the numerous berry gardens provide for the bee-keeper a possible honey harvest. Also the many raised "dykes" in the country covered with thorn bushes allowed to grow wild, similar to the "Holstein" manner, should give a rich harvest whenever there has been a right selection of the plants.

But these possible excellences have no influence if cold, wet honey-flow weather hinders the flowers from producing nectar.

To England the rule applies, mild winters, cold, wet summers. There are few parts of the land where the thermometer does not fall below freezing-point during winter, but yet seldom such warm days occur as those upon the Continent, which open our best honey-flow. The reason why one must be content with moderate harvests in England, Scotland, and Ireland is solely on account of the unfavourable climate, for, on the other hand, the Briton is acknowledged as persistent and enduring.

Forty-one years ago, during a five years' residence there, I encountered in the country only straw skeps. Even yet these still exceed the others, but, however, one can find very fine hives and the best systems. Also large sizes and extensible hives, such as the Dadant, are used. Smaller sizes, principally the Cowan, are there preferred to the larger, and are more commonly used.

When beekeepers have attained to a name in their bee world, that has occurred more by their "sport" in this respect than by their honey harvest successes. — A. R. FAIRBAIRN.

British Bee-Keepers' Association.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, April 21, 1921.

Mr. W. F. Reid presided, and there were also present Messrs. W. H. Simms, J. B. Lamb, G. Bryden, G. S. Faunch, G. R. Alder, J. Herrod-Hempsall, F. W. Watts, E. D. Lowes, G. W. Judge, A. Richards Association Representative, W. E. Hamlin (Surrey).

The minutes of the previous meeting were read and confirmed.

Mr. T. W. Cowan was elected chairman, and Mr. W. F. Reid vice-chairman.

The Finance Committee, as in 1920, was re-elected, with E. D. Lowes added. The Exhibition Committee was re-elected.

Publication Committee.—Messrs. C. L. M. Eales, W. H. Simms, J. B. Lamb, W. F. Reid, and A. Richards.

Board of Examiners re-elected, with the addition of Messrs. W. H. Simms and J. Herrod-Hempsall.

Emergency Committee re-elected.

W. Herrod Hempsall was elected hon. secretary, and J. Herrod Hempsall assistant hon. secretary.

Letters of regret at inability to attend were read from Miss M. D. Sillar, Messrs. T. W. Cowan, C. L. M. Eales, A. L. C. Fell, and C. J. Flashman.

The following new members were elected: Mrs. R. M. Newham, Miss F. E. Paling, Messrs. A. J. Boddy, R. Whyte, C. M. Hansell, W. Bashforth, and E. J. Outram.

The Portsmouth and District Association

applied for affiliation, and the same was granted on the usual conditions.

The following Associations nominated representatives on the Council, and all were accepted :—Bucks., South Stafford and District, Northumberland, Hertford, Ware and District, Doncaster and District, Sussex, Glamorgan, Salisbury and District, Monmouthshire, Surrey, Durham, Devon, Leicestershire, Derbyshire, Pembrokeshire, Notts., Staffordshire, Worcestershire, and Twickenham and Thames Valley.

The report of the Finance Committee was presented by Mr. Bryden, who stated that the receipts for February were £48 1s. 2d., and for March £60 19s. 10d. The bank balance on April 1 was £185 5s. 3d. Payments amounting to £73 12s. 6d. were recommended.

The dates for Council meetings were arranged for the third Thursday in each month except August, when no meeting will be held.

Letters were read from the Scottish and Irish Associations agreeing to the suggestion of the formation of an International Committee. The secretary was instructed to deal with the same.

Owing to the meagre support promised from the affiliated Associations it was resolved that the suggested county cup honey competition at the annual show at the Grocers' Exhibition be dropped.

The application for a grant to the funds of the Derbyshire Bee-keepers' Association's annual show was not conceded.

Applications for preliminary examinations at Derby, in Surrey and Devon were read and granted.

Next meeting of Council, Thursday, May 19, 1921, at 23, Bedford Street, Strand, W.C.2.

* * *

The report in last week's "B.B.J." of the annual meeting omitted to state that it was unanimously resolved to elect Mr. D. M. Macdonald a life member and vice-president of the British Bee-keepers' Association in acknowledgment of the very valuable work he has done for and on behalf of the Association.

Devon Bee-Keepers' Association

ANNUAL MEETING.

Mr. F. D. Acland, M.P. (president), took the chair at the annual meeting of the Devon County Bee-keepers' Association, held at Exeter. The annual report stated that the Association was out of debt. Efforts had been made to secure a grant from the County Council again for 1921, to help with shows and demonstrations, but so far to no purpose. The future looked hopeful, and it was expected that where bee-lovers existed they would help the Society to the best of their ability. The President, in moving the adoption of the report, paid great tribute to the work of the secretary and treasurer (Mrs. Newham) in pulling the Association together in the way she had, and for working so strenuously for the good of the Society, and said the County Council had turned down the scheme he had prepared for a wider method of assisting bee-keepers and fruit-growers by encouraging bee-keeping on right lines. Since then the Council had declined to renew the small grant made for work at shows during the past year. He had no grounds for imputing any ill-will, but it was merely part of the great wave of economy passing over local authorities. He welcomed such economy when it reflected a decrease for the ratepayer, but disliked it when it affected anything he liked. Pressure on the ratepayers and taxpayers was so heavy, however, that there was a tendency to be penny-wise and pound-foolish. He expressed a hope that the Association might succeed in getting some help toward an object which was vital in a fruit-growing county like Devon, and might be of great value if bee-keeping were encouraged, and orchards grown in a better manner.

Mr. H. Penny seconded the adoption of the report, and the motion was carried. A vote of thanks to the retiring officers and council was moved and carried.

The balance-sheet showed the Society had £36 13s. 8d. in hand. The president and vice-presidents were re-elected. The Executive Council and other officers were re-elected. Mr. Granville-Barker, of Netherton Hall, was elected as vice-president. Mrs. Newham, Farway Rectory, Honiton, was elected hon. secretary and treasurer. Mrs. Newham and the president were appointed delegates to the B.B.K. Association.—(*Communicated.*)

Surrey Bee-Keepers' Association.

A CORRECTION.

Referring to the report inserted by Miss Knowles in your issue of April 7, in case she has not written to you to correct same, I do so now as to the number of members, as at December 31 last, the net increase, after allowing for resignations, was 140, not 200, and the total number of members was 459, and not 500.

I am pleased to say that the Kingston and District B.K.A. have resolved to merge in this Association, so that, so far as I know, there are no other Bee-keepers' Associations in Surrey other than the Surrey B.K.A.

We are arranging to hold our annual show at Surbiton on July 20.

It may interest you to know that I have heard from a lady at Farnham that she had a very good swarm on April 10.

W. E. HAMLIN, Hon. Sec.

P.S.—I see in your issue of 21st inst. mention on p. 180 of a queen wasp on February 27. I saw a queen wasp on the wing either Christmas Day or day after, and killed it. Is this a record?

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d. up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

July 20 and 21, 1921, at Cardiff.—Cardiff and County Horticultural Society's Show, Sophia Gardens, Cardiff. Bee section under the auspices of the Glamorgan Bee-keepers' Association. Open Classes.—Schedules to be obtained from the Hon. Secretary, Chas. F. Davies, 5, Borstal Avenue, Cardiff.

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 7s. per ½in., or 12s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on MONDAY MORNING for insertion in the "Journal" the same week.

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PRIVATE ADVERTISEMENTS.

OWING TO REMOVAL.—Twelve fine, healthy Stocks of Italians, highly disease-resisting strain, very prolific, excellent honey gatherers, and all headed with 1920 Queens.—HUDSON, "Sunny Vale," Rockley, Retford, Notts. r.o.139

LARGE 3-framed Honey Extractor for Sale, good condition, 20s., free on rail Baildon Station.—ROBERTSHAW, Park Mount Avenue, Baildon. r.o.140

ITALIAN-ENGLISH HYBRID, strong, healthy stock, £4, carriage paid; box returnable; also strong Stock of Italians with imported Penna Queen.—SHARPE, 8, Bentinck, Kirkby-in-Ashfield, Notts. o.119

NATURAL, healthy Italian Swarms, disease-resisting strain, 40s.; Second Swarms, 30s.; package returnable.—CADMAN, Codsall Wood, Wolverhampton. o.120

HEALTHY STOCK Hybrid Italians on 8 frames, £3 10s.; travelling box 12s. extra, returnable. —BROWN, 42, Hide Road, Harrow. o.121

FOR SALE, three good Stocks Hybrids, 4 gns. each; also three Hives and etcs.—SIMPSON, Horsted Keynes, Sussex. o.122

30 STRONG, healthy Italian Stocks, £5 each; 25 English Blacks, £4 each; immediate delivery.—YOUNG, 42, James Street, Cambridge. r.o.123

PURE LIGHT CAMBRIDGE HONEY, extra fine quality, 13-lb. tins, 17s. 6d.; 28-lb. tins, 36s. 6d.; carriage paid; sample 4d.—YOUNG, 42, James Street, Cambridge. r.o.124

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DRAWN-OUT SHALLOW COMBS, 1s. 3d. each; bodies for same, 2s. 3d. each.—CRAWFORD, Apiaries, Castlederg, Co. Tyrone. o.130

TWO HIVES, Taylor's, will take 10 brood frames and two racks of sections, good condition, no disease, newly painted, 25s. each, carriage forward.—IBBOTSON, "Brookhill," New Barnet, Herts. o.126

FOR SALE, two strong Stocks healthy Italian Bees, £3 15s. each; immediate delivery.—SCOTT, Branksome, Golden Manor, Hanwell, W.7. o.127

TWO treble-spring Cricket Bats, almost as new, 20s. each; worth double.—CRAWFORD, Castlederg, Co. Tyrone. o.131

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WANTED, early May Swarm, pure Italians or 4-frame Nuclei; exchange pure White Leghorn Chicks, 18s. dozen.—FRANCIS, Kurnella, Shoeburyness. o.145

FOR SALE, two well-made Hives with strong Stocks.—Apply, J. W. CANRY, The Orchard, Chiddingfold, Surrey. o.146

APIARY, healthy, modern, five Stocks, 10 Hives, Supers, Sections, Extractor, every appliance, £55; would divide.—47, Hazelhurst Road, King's Heath, Birmingham. o.115

FOR SALE, Hives, Brood Chambers, Shallow Frame Crates, Drawn-out Combs, and other material sufficient for 40 stocks of bees. Reasonable offers entertained.—ASHWORTH, Pound Street, Warminster. o.103

WANTED, May and June Natural Swarms at per lb.; boxes provided. For Sale, superb quality English Honey in 28-lb. tins, also 10 Section Racks with tin dividers.—WYATT, Bishopswood, Chard. r.o.78

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TWO splendid Stocks Italian on 10 and 9 frames, 1920 Queens, guaranteed healthy; also three new well-made Hives, W.B.C. pattern, and Appliances. Reasonable offers accepted for the whole or part. Good opportunity for a beginner.—CURTIS, 1, Nimrod Road, Streatham. r.o.55

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WANTED, by the Northumberland B.K.A., an Expert to take charge of the Re-stocking Apiary at Alnwick, May, June, July; good wages offered.—Apply to MAJOR F. SITWELL, Galewood, Wooler. r.o.52

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WHILE THE HOME FIRES BURN LOW.—Dr. Rennie states that bees imported from Italy were found entirely free from the parasite. Now do you see why we are importing a number of Nuclei from the well-known Apiaries of Enrico Bozzalla, Crevacuore? We should like every county to possess one or more colonies of these fine bees.—SMITH, Cambridge. o.137

START RIGHT! Keep right! Avoid "Wight"! ALF. RYALL'S advice tell you how. r.o.144

BEFORE the illuminating Report of Dr. Rennie came out we could not talk of *Cures*. Now we can look old Tarsonemus woodi in the eye—well, we don't think much of him. Put him on a slide and he crosses his feet, gets all tangled up and quickly gives up the ghost. His wife is a bit tougher, but not much. We still think that the nest of the humble bee late in the season is the reservoir of the mites. To knock them out should not prove difficult. SMITH, Cambridge. o.138

ARTISTICALLY Illustrated Catalogue in connection with Dutch Bees and Bee-keeping sent free on request, containing information about queens, management, etc., making it an interesting booklet.—WHYTE, "The Bee Farm," Cumbernauld, Dumbartonshire. r.k.144

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FOR reliable Bees and Bee Goods, try STEEL, Spring Gardens, West Ashling, Chichester. Catalogue free. r.o.103

FOR SALE, Stocks of Bees and Hives. Orders taken for Swarms.—Apply, WALL, Tan-y-Cytiau, South Stack, Holyhead. o.102

S.M.C. SUPPLIED with my No. 52 remedy for "I.O.W." at 7s. 6d. per bottle.—THOMAS, Causeway, Burwell, Cambs. o.77

GREAT REDUCTION of Dutch-Italian Nuclei from £3 3s. to £2 15s.; Italian and Dutch 4-frame Nuclei, £2 15s.; May-June delivery; carriage paid; cash with orders. No better bees; beautifully clean; healthy.—SEALE, Ashley Cottage, Oatlands Drive, Walton-on-Thames, Surrey. o.82

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NUCLEI (3-frame) from hardy stocks (disease free), Hybrid or Penna 1921 Queens, 50s.; mid-May delivery.—MOORE, 31, Monmouth Road, Dorchester. o.104

MAY DELIVERY.—From the Enrico Bozzalla Apiaries, Crevacuore, Italy. 3-frame Nuclei, British standard, £3 10s. each, carriage paid, boxes free, 1921 Queens.—S. H. SMITH, 30, Maid's Causeway, Cambridge. o.112

STRICTLY BUSINESS.—A Japanned Sprayer, 6s.; one dozen Flavine Powders, 1s.; "Let the Bees Tell You," 2s. 6d.; all post paid.—S. H SMITH, 30, Maid's Causeway, Cambridge. o.113

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12 BEST OUTDOOR CHRYSANTHEMUMS, 2s.; 24, 3s. 6d. 25 Chives, 1s.; 12 , 1s.; one bulb forms big clump. CRISP, Halstead, Essex.

I SPECIALISE in pure Italian 3-framed Nuclei; disease free; guaranteed the very best value obtainable; price £2 10s.; cash with order.—N WILKINSON, The Old Rectory Apiary, Farnham, Saxmundham. r.n.57

WILL the Gentleman writing to N. Wilkinson, The Old Rectory Apiary, Farnham, Saxmundham, on 18/4/21, from Douglas, I.O.M., kindly write again, giving name and address, which were omitted?

4-FRAME NUCLEI, covered bees and brood, Italian Hybrid, absolutely no disease, £2 15s.; Swarms, £2; travelling box, returnable, 10s.—HOGAN, Boxford, Suffolk. r.o.71

MAY 1 DELIVERY.—Limited number of Nuclei, Italian Hybrids, disease-resisting strain; young tested Queens, 21s. first frame, 10s. 6d. each additional frame; orders sent out in strict rotation; case 10s., returnable.—STARKEY, 55, Stafford Road, Brighton. r.o.70

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ITALIAN HYBRIDS.—Nuclei, 3-6 frames, from £2 2s., carriage paid; delivery early June; reliable strain; no disease.—HOSEGOOD, 26, Purley Park Road, Purley, Surrey. r.o.25

ITALIAN NUCLEI, bred from Italy's best, hardy, splendid workers, three frames, young fertile Queen, 35s.—"A. B.," BEE JOURNAL Office, 23, Bedford Street, Strand, London, W.C.2. r.o.29

HOW IS THIS?—"I still have the original queen which came in the nucleus from you in 1919. She has at the present time brood in seven combs; also the two other stocks (increase from her) are in a very forward condition, notwithstanding the fact that they were *not* fed at all during the past season, while my other stocks were fed practically right through. I am more than satisfied with them, and I intend to re-queen my other stocks with virgins from your original queen. Wishing you every success, and be sure I shall recommend your bees wherever I can."—E. J. G., Oswestry, April 2, 1921. An unsolicited testimonial, which is the *rule* for *Adminson's Bees*. —ADMINSON, LTD., Benson, Oxon. r.o.32

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"RESERVE 30 Queens for this season's work Your Italians are 'it.'—S. C. L." Thanks S. C. L., I will.—ATKINSON, Fakenham. r.n.113

QUEENS, QUEENS, QUEENS.—Pure Italian; none better.—ATKINSON, Fakenham. r.n.111

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BUCKINGHAM BROS., Metal and Wire Workers, Warwick Road, Luton.—Try our Swarm Catcher, 4s. 3d. Collapsible Galvanised Chicken Runs, will not rust, made in four parts. 8s. 6d., carriage forward. r.n.114

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Fertile Italian Queens. May 10/6. Satisfaction guaranteed. PEARSON & GALE, Marlborough.

Seasonable Hints.

Swarming has been exceptionally early this year. It is very seldom that the earliest swarms come off before the third week in April, but this season there were several in March. With many colonies so strong at this time there are certain to be many swarms this month if the weather is warm, and forage abundant.

It is an ever-recurrent difficulty with novices, and also often with experienced hands, how to prevent swarming and persuade the bees to concentrate their energies in storing surplus honey in one hive, instead of dissipating them—in the bee-keeper's opinion—in establishing new colonies. We do not think it will be possible for some time to come, if ever, to eliminate natural swarming altogether, and it is an open question if it is even desirable to do so. Some of our bee-keeping friends continually advocate keeping bees according to nature, and, it must be remembered, that the swarming of bees is nature's method of perpetuating the race, and is an instinct bred in the hive bee for ages. However, it is from the bee-master's point of view desirable to control this propensity as far as may be possible. We have not the space to give all the methods that have been devised to this end, so much has been written on the subject, but a few hints may be acceptable to the amateur. In this, as in all other matters pertaining to bee-keeping, a little thought as to cause and effect will help in finding the solution of the difficulty. The usual cause of swarming, apart from that already given, viz., the method of perpetuating the species, is overcrowding. The bees have no room in the combs to store the abundance of stores that are being collected. The queen has only a limited space for egg-laying, this being confined to the cells vacated by the young bees, and often it is a race between her and the workers as to whether a newly-vacated cell shall be filled with honey, or be used again as a cradle. It is of no use for the workers to go out and collect nectar, for on their return home there is no room for them in the hive, and they have perforce to stay outside. The remedy is obvious: Give room, and still more room. Give the queen more combs, either standard or shallow, according to her capacity, so she can enlarge the brood nest. We prefer to put these extra brood chambers under the full one. At the same time, or a few days later, put on a super and a queen excluder under it. The "Demaree" plan, or some modification of it, is very effective in stopping swarming. Briefly it consists of taking out two combs of brood and the queen, putting these in a new brood chamber with eight frames fitted with foundation. This is put on the floor board with a sheet of queen excluder over it, and the other eight combs of brood and two frames of drawn-out comb put on the top, and also a super. Variations will suggest themselves. The position of the brood chambers may be reversed, or supers may be placed between the two instead of on the top. If a moderate increase of stock is desired an artificial swarm or a nucleus may be made, but it will be noticed that all methods have the one aim—to *give more room*.

If queen cells are started these should be cut out, unless they are needed for nuclei or artificial swarms. Cutting out queen cells by itself will not prevent swarming; it will only delay it for a few days. Caging the queen for a couple of days will often prevent swarming, if more room for the storage of surplus honey is also given. There are other methods more or less successful, but our space is exhausted.

A Dorset Yarn.

Dry weather, plenty of sunshine, bees are working the apple blossom on the farm; everywhere very beautiful just now, and those of our stocks that are very strong are working at high pressure. We have some that only go slowly, they have not the numbers; but they all seem doing good work on the farm. A field of apples and black currants have them above and below—sweet music to the ear of the bee enthusiast. The hives seem at night to vibrate with the sound of so many workers.t

Our first swarm was on April 21, not a large one; they are on a batch of drawn-out combs, with one full one of heather honey that was left over from last year. One stock had the queen laid out dead on the entrance board a week or two since; some of the combs now have several queen cells each, one has six on the base of it. Bees do not mourn long over the loss of a queen, now that brood is plentiful and food abundant.

Each year one sees our little friends on different plants for food. I notice Italians are on the flowers of grasses, they were collecting pollen; though close by them are plenty of gorse and broom in full blossom. This lot is not near any turnips, like the lot at the farm apiary; they get ample stores from the fruit, as they are building comb up to the glass covering.

As one gets older one ought to get wiser. I learned still more of how to keep bees to the best advantage. This can so easily be

done on a farm, as there are plenty of fields to place the bees close to the food from which they store a surplus. This farmer had taken his swarms of last year round the clover fields. All of these had wintered well, and to me it seemed a wise thing to do, as swarms do not give the trouble of swarming out again if they have plenty of working room. This is not so with early swarms, as they will raise queens and swarm out just in the honey flow unless the queen cells are removed.

Bees taken close to fields of food like this farmer had them, could get their surplus stores faster, as the journey backward and forward is not a long one. This farm is surrounded by plenty of woodland, big trees of oak, wild apples were in blossom, wild cherries of the morello type were in full blossom, acres of gorse had been allowed to grow in some of the fields, all to make cover for game. The pleasure of the wealthy was of more importance than growing food for man. The few homesteads are isolated "far away from the haunts of man." No wonder the farmer's wife has plenty of paying guests the whole summer through, for just now the whole valley is one sheet of many-coloured blossoms. One would never realise this was close to the sea, but the hills keep off the winds, making all calm and peaceful.—J. J. KETTLE.

Jottings from Huntingdonshire

First let me express my gratitude to Messrs. A. Nielsen and A. R. Fairbairn for their interesting notes on bee-keeping in Denmark and Norway. We have not yet risen to an International Bee-keepers' Association, but until that ideal is accomplished let us hear more from abroad. The BRITISH BEE JOURNAL finds it's way to Finland, Poland and the Ukraine, also Roumania among other places. If the editor does not object—and I don't think he will—may I appeal to those bee-keepers in the above-named countries, who write to us individually, to send a few notes to the Journal for publication? If I may be further allowed, I should like to add that the editor of this Journal is the most human of men, and will not sit in his office chair and laugh at the broken English of our brother and sister bee-keepers of some foreign clime. If after this our brethren abroad still feel nervous about writing to a real live editor, I should personally be delighted to receive more letters from abroad, and will, if the writers wish it, gladly put their remarks into simple, everyday English and pass on to the Journal. But please don't write me and say, "Whatever you do don't publish my remarks." I wish an abler pen than mine would endeavour to convince bee-keepers of other nations that notes in their own broken English are a charm in themselves, and we stolid Britons delight to read of ourselves as others see us. Let me quote from a letter coming from the Balkans:—"Your BRITISH BEE JOURNAL delights me to read; it is of the English papers a few we understand. Your dwelling must be settled in great beauty, although you have not our hills yet you have expanse. Bees are kept here in great plenitude, and the flowers they suck are a loveliness that rejoices. In our village are twelve owners of the bee, and plentiful honey is gathered so we have great bulk to sell." May I add the patient compositor would rather set matter like the above to type than a few lines of dialect.

Now in response to English correspondents. Not a few are anxious to compose Nature notes. How is it, some ask, things are so forward here? I can only suggest that the large amount of sunshine we are blessed with is responsible. The land of the county is of stiff clay, marle, gravelly, and fen. Soil has something to do with it, as some parts of the county are a week ahead of others. The chief wayside flowers in bloom now are cowslips, buttercups, dandelions, garlick, and wild orchids. In the hedgerow the blackthorn is over and the white thorn is blooming, as is also the Glastonbury thorn, the guelder rose, and the crab apple, with here and there a few early blooms of the honeysuckle. In the woods, bluebells, anemones, and primroses are still ablow, while the gardens are being beautified with the opening of the aquilegias. Many trees are in flower, the elm blossoms are not all over, while the sycamore is in its beauty, and the chestnuts are just beginning to blossom forth. There is enough and to spare for the bees, and the weather has been ideal this past week for honey gathering—a few gentle showers and much sunshine. The queens within the hives, however, are in varying moods; some are crying out for more room, others are content with four combs for depositing. Singularly, the hybrid queens are all agog, the Italians seem more chary, the Dutch, of course, will lay, whatever the weather. Before these jottings appear in print May will be here and *the* month for honey if the weather be right, for I notice acres of hop clover and beans in flower. Oh, the honey which is wasted through the lack of bees to gather and store!—E. F. HEMMING, Steeple Gidding, April 29, 1921.

P.S.—First cuckoo was heard here on the 15th, the first swallow seen on the 13th—later than last year.

The Saharian Bee.

Just a few lines before I return to Europe to tell you that I have been able to study the beautiful orange bee which I found all along the Saharian slope of the Atlas mountains. The crescent, as in the Cyprian bee, is well marked, and it is separated from its congener of the Mediterranean slopes of the Atlas by the high regions of the central Atlas Steppes, which, as you know, is quite black, the so-called by some "Punic" bee, which would be more correctly styled North Atlas Bee, as against the South Atlas or Sahara bee, known here as *El-Hamra*. I will write more fully on my return.—PH. J. BALDENSPERGER, South Morocco, March 28, 1921.

Jottings.

Curiosity (page 56).—As a believer in legislative help to exterminate disease of any kind where necessary to assist our bees to carry on their productive function, and at the same time store the sweet so many of us like to get for our own use as food, I feel very curious about this Glasgow Association report as regards the vote, and actual numbers, if we might have them, as considering the many resolutions in favour from similar organisations, it seems funny no one had a good word to say for this proposal.

Might I ask this "lecturer" on the proposed "Act," as submitted for information, on the ground that this meeting is calculated to cause a hindrance to progress on the one hand, and of withholding information some of us would like to be getting to warrant such an isolated resolution.

(1). Does it not seem fairly reasonable to expect that getting rid of *disease centres of all kinds* might prove both remedial and preventive?

(2) and (3). If inspectors, naturally specialists, would not be able to classify diseases, which is a long way towards applying the cure? A little help is worth a good deal of economical pity, which usually costs nothing.

(4). If the public has not been fortunate in getting its food return assured at such a cheap rate these many years, on the axiom, "No bees, no seed"?

Another Curiosity (page 67).—Just what do the Ministry of Agriculture mean? First, we have arrangements to choose a committee, to advise on all apicultural matters, including the subject of legislation, which, however, is postponed until the petitioners are further organised. I venture to suggest no more unselfish, less grasping, educative, or better organised body of the community exists than the many Bee-keepers' Associations. Do they advise something more demonstrative? If they will tell us what percentage of agreed opinion is required, we will supply it forthwith.—A. H. HAMSHAR.

Pollination of Gorse.

I need not apologise for this article coming a little late, when the first glory of the gorse is passing, because we all know the old proverb: "When the gorse is out of bloom, kissing's out of fashion," and so I feel sure that there will be ample opportunity for anyone who is interested in my subject to watch the proceedings for himself.

I can echo the words of the Psalmist: "The lot is fallen unto me in a fair ground: yea, I have a goodly heritage."

One beautifully sunny morning not long ago I was sitting in a south window watching the bees going in and out of a nucleus hive, which stood on the windowsill outside. Five bees out of every six had pollen baskets full of pollen of a beautiful soft tangerine shade. I knew that they were working the gorse, which was fully out in flower on an enormous common, which starts almost at our threshold and stretches for about nine miles.

Later in the day I had to cross a piece of the common, and loitered on the way to see just how it was done.

Here is a bee—an Italian: it sniffs at a flower or two; nothing doing! Then it chooses one, and puts its head close to the base of the "standard," or large back petal, while it sits astride the lower part of the flower, which consists of a boat-shaped part, called the "keel," which is closely covered by two side petals, or "wings." Both of the flower's "wings" and the "keel" lie between the three legs on one side of the bee and the three on the other side. I can only see the legs on one side. She begins rubbing together the second and third, when, puff! the flower collapses, the keel drops down like the lower jaw of a country bumpkin when he stands with his mouth open, the "wings," too, drop, and the bee is now sitting astride a white column, which ends in a number of anthers, yellow with pollen. When the flower collapsed, or, as botanists say, "opened with an explosive mechanism," a little puff of smoke floated away through the air—pollen going in search of stigmas of other flowers. The bee at once began collecting what pollen was left on the anthers, and piling it into its pollen baskets. Then it pushed itself off the flower, and hovering near with its head towards the flower, did it? No, look again! Yes, it did—in every case on leaving the flower it put out its tongue!

If we examine the white column on which the bee sat we shall find that it consists of the tiny pod surrounded by a white skin, which is formed of the ten stamens joined together. Botanists tell us that when the ten stamens are joined like this the flower does not produce nectar, but that when one stamen is free, as in the peas, then there is nectar. But if the gorse has no nectar why should the bee put out its tongue?—I. H. JACKSON (MISS), Holmwood.

Bee-Keeping in Hungary.

ENGLISH BEE-KEEPERS INVITED.

Bee-keeping in Hungary, though practised from times immemorial, still, one might think, is in its infancy in our days, when compared with the American methods. Bee-keepers use the Dzierzon type of hives, of which at least 30 different varieties exist; also the straw skeps are much in use in the far-off villages. No hives of the Langstroth type are used, although a bee-paper tried to introduce it, and called it "American, or loading hive," after the manner that supers are loaded one above the other in the honey flow; for the Dzierzon hive always remains of the same dimension, whatsoever good the yield might be, we cannot extend, but have to keep up with the bees in extracting, that they might have empty combs to fill again. Certainly, this cannot be done in very good years, and so it comes that bees are wasting the most precious time sitting outside on the front, or else preparing to swarm, thus depriv-

ing us of lots of honey, and we ourselves of the opportunity offered to us. In this I see the drawback of the Dzierzon types of hive, and they cannot be improved, for these hives are opened from behind, the combs being removed one by one to get at the front combs, so that it is next to impossible to enlarge it by an extension.

The flora in Hungary is rather rich on the uplands, a real bee paradise in many places; still, I think the bee-keeper's paradise is on the lowland. Though not so many kinds of flowers are found here as in the hilly regions, but those present are found in vast fields, and this is essential for a good yield. In the spring, willows yield much honey, if winds do not hinder the bees in flying; fruit trees come after them, giving some honey. Winter rape is "honeying" in May, the Robinia trees (American black locust) are numerous and give the finest grade of light-coloured honey in June, even known in Germany for its quality. Lucerne is widely cultivated. Wild mustard is a common weed on these down-lands, being in bloom from May to July, and the sweet clover (Melilotus) through July and August; though these two are not yielding plentifully for extraction, they fill out the time till the "stubble fields flower" (Stachys recta) grows up about four weeks after harvesting and keeps on flowering and honeying until about the middle of September. This is our first-rate and well-renowned honey plant, though not making her appearance in years when drought prevails, and only yielding moderately if rains are not enough for her thrivence, but if it rains at least once every two weeks she makes a marvel, honeying so profusely that 80 to 100 lbs. per colony are a common yield. It is to be regretted for the rest of the country that this plant thrives only on good black soil, and best on the light kind of that, while on sand she is not to be found, and on clay does not secrete nectar. There are many plants of minor value that reckon for honey plants the same as are found in every country.

Comb honey is little produced here, everybody extracts his honey. The hives with one bee-keeper seldom number more than 10 to 30; very few work up to 100, which I ascribe to the above-mentioned fact, that the bee-keeper has too much work with the hives managed from the back (Dzierzons), and cannot manage as many of them as of the loaders, for I read in the American book, "A.B.C. of Bee Culture," by A. I. Root, that several hundred colonies are kept by bee-keepers in that land.

I heartily invite such English bee-keepers who might choose bee-keeping either as a profession or else to spend their summer months with handling and studying bees, to do this in Hungary where climate and especially the soil (alluvial soil rich in nourishment) are more favourable than in England. The distance is not so great but that it were possible to live in England half the year through, coming over here in March, putting out bees from a cellar they were wintered in. In that month and April it would not even be a necessity to live all the while with the bees, but it would be so from May to the first half of September. In October the bees might be placed in the cellar, and left for the care of a housekeeper or any man trusted with guarding over them.

I for myself would be willing to work with an expert bee-keeper on co-partnership, and could help two others placing themselves in the neighbourhood; very good location on the banks of two rivers, which join each other not far off, and thus form an angle so that those settled on the one river are but about twelve miles to the other. Last year there was a good yield from the stubble-field's flower to late in September, so that the bees kept on rearing late, therefore I hope they will make strong colonies this year, and if the weather in April will not be severe, swarms will be numerous and may be bought cheap. So I think this year a favourable one to start.

If this article of mine would meet with somebody's attention, please ask for my address of the Editor and write me. I will be pleased to answer any questions.

D. A. Jurenak.

The Production of Heather Honey.

With your permission I propose to give a description of some of the places I am acquainted with where heather honey is got, also some notes on the subsoil. My opinion is that the flavour of the heather honey gathered in some districts is spoiled to some extent by the other flowers that are in bloom along with the heather. For instance, take ragweed; how much good heather honey is absolutely spoiled with it? There are others, but that is the worst I know. A bad subsoil does not improve it, but it can generally be avoided when fixing a location. In the autumn of 1914 I got a quantity of honey combs sent me for extracting. I started all right, but the second pair of combs would not extract. I examined them and found it was heather honey, but of a very poor quality. I got hold of the beekeeper, asked where he had got the heather honey, but his bees had not been at the moors for two years. I knew of a stretch of moss about three to four miles from his apiary; the bees had been flying there for it. The subsoil was clay, but what a taste the honey had! Castor oil and treacle would be a fair description of it. That moss stretches with intervals for about six miles, and I have had bees within range of it, but never got much honey, and it had to be a dry year to get any at all, and it had always a peaty flavour.

Fully a year ago I was in Kircudbright in the Valley of the Ken above Daly. There I tasted a sample of as fine heather honey as anywhere. Some months later I was back, and I made a purchase of some sections of heather honey gathered on the Kells about five miles below where I had got my previous sample. It was not nearly so good, the *heather* honey was all right, but there

was another honey of a dark brown shade which spoiled the taste of the heather; both were on the same kind of soil, and the subsoil was of what is called "Galway granite." I would call it whinstone.

Where I take my bees to the moors, on the foothills of the Grampians, there is a complete absence of noxious weeds and flowers, and I get what I consider a very fine flavoured honey. I do not know how high it is above sea level, but the worst feature is early frosts, after September, sets in; they come very suddenly. The soil in the vicinity of the moors is of a fine red loam, very dry, with a subsoil of rotten sandstone. Further west the soil is much the same, and the subsoil is full of whinstone. The heather honey there is a deeper red, perhaps a little thicker and stronger flavoured, and some beekeepers say there is more of it. I have only once seen an absolutely ideal location for the heather, but one would want a flying machine to reach it! So in the meantime we do the best with our present locations, and given the stocks in right condition for the late honey flow, there is always enough to be got to take us back for another year.

J. C. N.

Preparing for Heather.

I think we may take it for granted that this means preparing for heather honey This being the case, are not your numerous correspondents often defeating the end they have in view by introducing young queens shortly before heather is in bloom? It takes three weeks from egg to worker bee, and as it is generally understood that for ten days or so after hatching the young bees do no outside work, but act as nurses and housemaids. Over a month is gone before those *reared* at the heather do any gathering therefore they are just honey consumers instead of gatherers. If the season is a real good one, does it matter what queen is there? For will not the brood nest be filled with honey as fast as the young bees emerge? But if the season is a poor or indifferent one, then a young queen will be more likely to have room to exercise her prolificness, and thus a lot of brood be raised which will consume the honey gathered, in their being reared and afterwards. If a queen has done well during spring and summer, and is at beginning of August at the head of a stock which has ten combs of brood, and a super or supers all well crowded with bees of good honey gathering strain, is she not good enough to carry on for another month? Such a queen will not necessarily be "pumped out," but after a season's laying will gradually, as a rule, taper off in her egg-laying capacity. Is it not better to have some honey in brood nest or super, or both, than having it all consumed in rearing a lot of bees useless for current season? Would it not be better to requeen *after* the heather? I am not a regular "Heatherite," but have taken bees to it, on and off, for twenty years or more, the last time was about fifteen years ago. Four other bee-men and I (three of them real old hands at the game) then took over a dozen stocks (two cart-loads) near to Long Framlington, Northumberland. My quota was three, two of which were on ten frames of comb each, of which at least eight in each contained brood. The other was on ten frames foundation; the bees in this were two good lots driven, put on the frames night before taking to heather. All three stocks had a super of eight two-inch shallow bars, with just strips of foundation. All came back with brood nests practically solid with sealed honey; the two combed lots no honey in supers worth mentioning, but from the super on the foundation lot I took thirty odd pounds of splendid comb honey. The other bee-men had not one near so good among their lot (all the bees were natives). I meant to repeat this experiment, or vary it with new combs instead of foundation, but have not had the chance. The season I mention was not one of the best. First ten days were as good as could be, but afterwards it was rain and wind, with the exception of an odd day or so at intervals. Some of the young queen advocates will no doubt cavil at the idea of brood nest being filled with honey in place of brood, but I have seen the same thing occur during a glut of honey from fruit and clover. Mr. Woodley wrote some years ago bemoaning his feared scarcity of swarms, as his bees were crowding out his queens with honey.—"ROBIN HOOD."

Manchester & District Bee-Keepers' Association.

The Manchester and District Bee-keepers' Association held their first meeting of the session at the Milton Hall, Deansgate, to hear a lecture on queen rearing by Mr. T. W. Wilkinson. Our president, Mr. Worthington, occupied the chair. He said he had great pleasure in introducing the lecturer, as he had been instrumental in giving him his first lessons in bee-keeping; he was a pupil who had outdistanced the master; of his many protégés he thought this was the one *par excellence*. He was an experimenter, not satisfied with the common run, loved the bees and the craft, tried to find the best, and he had no doubt about his giving the members a treat and food for thought in the lecture he was about to give. To illustrate his subject Mr. Wilkinson had prepared forty lantern slides.

The lecture was of special interest to up-to-date bee-keepers. Pictures for the eye, descriptions for the ear and the mind charmed the members for an hour. First showing a comb with a queen, drone, and worker for comparison, then at once dipping into his subject by illustrating three hives set apart, two with his best queens in, one laying queen eggs, the other laying drone eggs, the third hive for workers making queen cells, and then rearing the royal larvæ.

His description told us the history of queen rearing by scientific methods, begin-

ning with Doolittle the pioneer, showing us meanwhile American, British and Italian styles of procedure, with pictures of queen cells made by each system. Some of the combs depicted were works of art, queen cells all of an age, ripe and ready for transference in regular order and sufficiently apart to make manipulation easy; we were shown a comb full of eggs cut into strips and waxed to a wooden bar with the alternate cells destroyed and the other drawn out, giving a row of larvæ of the same age.

We saw how queen cells were made on a stick, and then attached to a carrier, and latest showing that wooden cups were coated inside and fixed to the carrier by a pin, we were told they were easy to fix and remove when required.

A slide showed us an instrument to lift a larva or transfer royal jelly; on another we had a section of comb containing larvæ from one to three days old, which illustrated a point as to the best age for removal, while his description of the transfer made it sufficiently clear for the merest tyro. We had a cup with a grub safely introduced, and another which had met with an accident drawn out to receive honey.

A frame filled with nursery cages, a description of suitable bees to attend on the young princesses. Various forms of introducing and travelling cages were shown, with an explanation.

A choice slide of the abdomen of a young queen, showing the hair and the beautiful wings folded over; a sketch of the internal organs of queen's abdomen; another of the spermatheca, both of which were defined in detail, with just a touch on that strange law of Nature, parthenogenesis. Pictures of a young queen, careless and happy, with her beautiful, comely form; and of an old queen, hairless and scraggy, with torn wings and smooth abdomen. As final slides he gave a queen just emerging from the cell; finally a view of the apiary where his own queen rearing experiments are carried out.

Mr. Wilkinson demonstrated how Nature can be helped. If the best conditions are placed in the way of the bee, satisfactory results will ultimately follow. He advocated frequent renewal of comb for breeding; he deprecated the good old tough comb which old-fashioned bee-keepers swear by, and gave illustrations of the dwindling size of cells by the accumulation of cocoons, and the consequent diminution of capacity, both in depth and width of cells, and another picture comparing the relative size of worker bees born in an old and a new cell. Arguing from this, he came to the conclusion that stronger, bigger, and better developed bees came from the new normal-sized cells; everything about them would tend to better colonies, better queen feeders, foragers with better development, longer and stronger wings, and all their faculties better nourished. Queens attended to by vigorous, healthy bees would naturally lead to stronger and better colonies still, on to disease resisters. The survival of the fittest is the result of stamina. Many points of interest were touched on, all leading on to his ideal. Try to get the best from colonies with vigour and vim; surplus is more certain than by any other way.—J. WHITTAKER, Hon. Sec.

Beverley and District Bee-Keepers' Association.

The third annual meeting of this Association was held in Beverley on April 21. The report showed a large increase in members and a slight increase in disease, and the balance-sheet a surplus of £11. It was decided to become affiliated to the Yorkshire B.K.A. In regard to the "Bill," the following resolution was adopted:—

The B. and D.B.K.A. regret the postponement of the Bee Diseases Bill, and while not wishing to be taken as advocating any elaborate legislation or expensive administration, desire to place before the Ministry of Agriculture their opinion that bee-keeping can never be a reliable and prosperous industry in this country until there is some legislation against the careless spread of foulbrood and "Isle of Wight" disease, and compulsory registration of all bee-keepers.

With a view to decentralising the work and benefits of the Association it was decided that the committee should also be recognised as, and undertake the duties of, district representatives. A question was raised, but without decision, as to whether disease can be transmitted by foundation. The president, Mr. W. J. Algar, of Lockington, the secretary-treasurer and committee were re-elected.—T. T. TAYLOR, hon. sec., 137, Keldgate, Beverley.

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Dealing with "Isle of Wight" Disease.

[10438] I notice in your issue of March 10 Mr. J. M. Ellis' remarks on "Disease Treatment." I am sorry to say I have a good deal of experience of disease, and I have found that no hard-and-fast rules of treatment are possible.

In the early summer of 1914 I had several cases of "Isle of Wight" disease, and in one of the worst cases I simply de-queened and introduced a young queen from Mr. Simmins—this lot had no further treatment and by the autumn was very strong indeed, and the next season gave me lots of increase.

Since then I have had further experiences of "Isle of Wight" disease, but differing from the case quoted above in this very important respect—the disease developed after the bees ceased working, and only showed itself in January and February when a day was mild enough for flight.

What can be done in January or February with masses of dead and dying bees and hives badly soiled? Surely in that case destruction and thorough cleansing and disinfecting of hives is the wisest course.—RICHARD H. AMIES

14.3.21.

Pasture for Bees.

[10439] *Re* lucerne for bee pasture, 10425 in "B.B.J." for April 7, lucerne is useless for bees, because it must be *cut before the flowers open*, whether wanted for hay or for green fodder

If left later the plants lose vigour and become so fibrous that they are difficult for animals to digest.

Copies of leaflets on cultivation of various kinds of clover can be had free from the Secretary, Board of Agriculture and Fisheries, St. James's Square, S.W.1.

MARGARET HERALD.

April 9, 1921.

Cause of Spring Dwindling.

[10440] My experience this spring is very similar to that of G. G. Desmond, in BRITISH BEE JOURNAL, April 14, "Saving a Queen," and feel confirmed in my conclusions by his remarks. Last autumn I found my bees in a most deplorable condition—no eggs, brood, or stores. I at once fed rapidly 20 lbs. sugar to each stock. They all came through winter well and appeared by the number flying in March to be strong, but on examination yesterday, April 12, there was not more than one comb of brood in any hive, very few bees, but plenty of stores. In the case of an Italian stock the queen was missing, though there were three combs of brightly-polished cells, but no eggs or brood. This stock in March appeared to be the strongest of all. My conclusion is that the dwindling is due to a lack of young bees last autumn, and the beautiful weather has encouraged the old bees to forage and wear themselves out. Have now made six stocks into three, but fear they will not be strong enough to gather much, if any, surplus. A friend of mine near here supered several stocks on April 1.

April 13, 1921. WRENS.

Killing Wasps.

[10441] In reply to (10414) in the BRITISH BEE JOURNAL for March 24.

I see in the BRITISH BEE JOURNAL of March 24 the sad plight of a bee-owner who has been so very troubled with wasps. I should like to tell him of how we got rid of thousands, just in case it might help to save the bees this year.

We bought a few "fly bottles." These are made of glass, the shape of a bell, with the edge turned in to form a hollow, in which I put fermented jam, dregs of wine, or fruit pulp, with plate under this, as the glass is raised about one inch from the ground by three small glass feet. The odour attracts the wasps, and if it is made very liquid they drown almost immediately. I placed these bottles quite close to the hives—the bees will not go near them. I also hung on to the wall close by fruit bottles by means of two strings tied one round the neck and one lower down to make them hang on their sides, and put the same fruit, etc., in, with a cone of paper or cardboard in the mouth to prevent the wasps creeping out again.

A SYMPATHISER.

Removing Bees from Wall.

[10442] With reference to C.E.P.'s query as to whether he could get bees out of a wall by attaching a hive with foundation to the wall so that the bees had to pass through the hive, it is doubtful if the queen would occupy the hive as she has sufficient room where she is. I would suggest his using a method described in the A.B.C. and X.Y.Z. of Bee Culture. A nucleus on three frames, together with seven frames of foundation, is put in a hive which is fixed with its entrance as close as possible to the entrance into the wall. Over the entrance into the wall a Porter bee escape is fixed, so that the bees cannot get back to their home in the wall. They will all find their way into the nucleus. After a month only the queen and a few young bees will be left in the old home. The bee escape is then removed and the remnant are sulphured by means of a smoker and sulphur. The hive is left in position another week, during which time the bees will rob all the honey from their old home.

I would suggest carrying out this plan during the latter part of May, when the colony in the wall will have become strong, and may have stored a fair amount of honey.

W. B. WALLACE, Lt.-Colonel.

April 21, 1921.

Bees near Arsenic Mines.

[10443] I am glad to have your decision *re* the effects of arsenic fumes (10417, page 145). In the woods here the wild bees are numerous. They do not seem to be affected in any way. Since writing to you I have paid many visits in the immediate neighbourhood to people who went in extensively for bee-keeping at one time. Alas! the same complaint from all, viz., the fumes of arsenic and Isle-of-Wight disease had killed all their bees. I am indeed sorry the legislation *re* bee diseases had been postponed. It is lamentable to find so many hives stowed away in odd corners, or left standing in the same places after the bees have died.

In East Cornwall and South Devon bee-keeping must have been at one time a thriving industry. To my mind the results would not have been so disastrous if the bee-keepers had been more attentive to cleanliness and changing of hives. Recently I have spoken to

many who kept bees some time ago, and all give the same remarks, that they never changed hives, or took a stock from one hive and placed it in another, and thus having a chance of cleaning and disinfecting hives.

My bees have come through the winter in splendid condition. Although there are many complaints about last season being a bad one for honey, I took 40 lbs. from one hive and there was quite a lot left in the hive for winter food. I believe in letting the bees have their natural food in winter. So far this spring they have been very busy on the arabis. There is a mass of this covering the walls and rockery in my garden. Division of labour is well organised in the hive. As I write there are four streams of bees coming and going. One to the right, where some laurels are in full bloom, the same to the left. About two hundred yards away is a rocky hill covered with gorse, which has been blooming since February. There is a constant stream of bees in that direction. I visited the spot yesterday, and the satisfied hum of the bees was a pleasure. Most of the flowers had exploded, the pollen being swept out by the stylar brush of the pistil. This only takes place when the bees alight on the wings of the flower and press them down, thus forcing out the stigma, which sweeps out the pollen. As the gorse has no nectary at the base of the monadelphous stamens the bees must visit the flowers for pollen. When they return to the hive, heavily laden with pollen, they seem exhausted with their heavy load, and drop in a heap on the alighting board. A fourth stream of bees is much higher, and they make for the woods covering the banks of the Tamar. The willow flowers (male and female) have been profuse this spring, and as they are entomophilous flowers, and visited for both pollen and nectar, the bees have done good work. To-day I have sown some Shirley poppy seed, as the bees seem very fond of the flowers. Last season they were very busy on these flowers. They are not injurious, are they? The opium, I believe, is in the green fronds.

[The nectar is not injurious.—ED.]

In February I put in a cake of candy for the bees, as the stores were getting short. The bees seemed to relish this, and on fine mornings I noticed very many getting water from the leaves of some onions and leeks growing near the hive. I always sow my leek and onion seeds around the hive. They are not large plants and do not shade the hive, and are beneficial, I believe, in keeping away disease. GEORGE ORD.

Swarm Control.

[10444] About ten years ago a method of swarm control was given in the B.B.J. by Mr. T. Stapleton, of Gwinear, Cornwall, but I have seen no comment on it since. The method described was to requeen without dequeening by running a virgin queen in at the entrance providing she has not fed in the hive she was reared in. The idea struck me as worth trying, as most bee-keepers have queen cells on the point of hatching during the season, and so have young queens to destroy that may be turned to good account, especially where one has stocks stimulated to produce early swarms. I always have a few in my home apairy for that purpose. About the eighth or ninth day after the first swarm issues I look for queen cells that are forward enough for the young queen to run out if the cap is touched. The queens are taken to the out apairies and run into the forwardest stocks. They are usually accepted, especially if the stock has commenced building queen cells, when the queen cells are torn down and the old queen thrown out, which may happen in half-an-hour or less. I have known the old queen laying on one comb and the young, unmated queen be on another eleven days after, and four days later the young queen was laying and the old one gone. I have tried this method every season since it was given. The advantages gained are, principally: The swarming impulse is stopped in the stock requeened successfully, and no time is lost in brood rearing. I always practise queen clipping in the spring, so that I know if a stock is requeened successfully. All stocks are selected for honey-gathering qualities, to provide the next season's swarms and queens. I work solely for honey, and sell no stocks or queens, but am giving my experience of this method for what it is worth to those with a few stocks to try their hand in the season soon upon us.—HORACE H. HALL, Upham, Hants.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d. up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 8 and 9, at Rochford.—Essex Agricultural Show. Bee and Honey Department in charge of Essex Bee-keepers' Association. Sixteen Classes, all but one open. Silver and Bronze Medal, and many prizes.—Schedules from G. R. Alder, Hon. Secretary, E.B.K.A., 7, Bulwer Road, Leytonstone, E.11.

June 15 and 16, 1921, at Burton-on-Trent.—Staffordshire Bee-keepers' Association Show in connection with the Staffs. Agricultural Society. Four Silver Medals and five Bronze Medals in Local Classes, one Silver Medal and one Bronze Medal in the Open Classes.—Schedules from W. Griffiths, Solway House, Silkmore, Stafford. **Entries close May 28.**

June 28 to July 2.—Derbyshire Bee-keepers' Association's Show in connection with the "Royal" at Derby. Open Classes, good cash prizes and gold medal offered.—Schedules, apply F. Meakin, 37, Pybus Street, Derby. **Entries close May 30.**

July 20, at Alexandra Recreation Ground, Surbiton.—Surrey B.K.A. Show. Twenty Classes. Two Challenge Trophies, ten Silver, and 15 Bronze Medals. Nine Open Classes.—For Schedules apply Hon. Sec., W. E. Hamlin, 43, Norbury Court Road, Norbury, S.W.16.

July 20 and 21, 1921, at Cardiff.—Cardiff and County Horticultural Society's Show, Sophia Gardens, Cardiff. Bee section under the auspices of the Glamorgan Bee-keepers' Association. Open Classes.—Schedules to be obtained from the Hon. Secretary, Chas. F. Davies, 5, Borstal Avenue, Cardiff.

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One Penny per Word.

PRIVATE ADVERTISEMENTS.

FOR SALE, healthy Italian Hybrid Swarms, May, 35s.; June, 30s.—J. M. WILKIN, Pymoor, Ely. r.p.1

ITALIAN HYBRIDS.—For Sale, splendid healthy Stock on 10 frames, 1920 Queen, £5.—NEWTON, Pevensey, Cliffe End, Purley, Surrey. p.c

TAYLOR'S C.D.B. HIVE, used three months, ventilation at bottom, 9-in. lift, 35s.; no disease.—MISS HALSTED, North Gate, Chichester. p.3

HEALTHY 6-frame Stock of Italians, 45s.—GLYNN, 15, Kelvin Avenue, Palmers Green, Middlesex. p.5

FOR SALE, Raplin Machine to make ice of water, wine, or ice cream of milk, with instructions, complete, or would exchange bees or anything useful.—H. MORRELL, Orchard, Latchingdon, Essex. p.4

SUSPECTED BEE DISEASE.—Will bee-keepers kindly forward samples for research purposes?—DR. SMITH, 5, West Castle Road, Edinburgh. r.p.6

WANTED, Honey Extractor and Wax Extractor, second-hand, good condition.—HAMPSON, Wykefield, Ambleside, Westmorland. p.8

FOR SALE, 61 lbs. good Welsh Honey. Best offer.—JAMES, Adpar, Newcastle Emlyn. p.9

FOUR LEE'S HOLBORN HIVES, telescopic lifts, sweet and clean, well painted, cheap as dirt, 17s. 6d. each. Compare list price.—LOWE, Lilac Villa, Chilwell, Notts. p.10

SHOULD you require a thorough practical young Assistant write to Box 23, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. Advertiser has had several years' experience in connection with commercial honey production and Simmins' non-swarming method, also handy at hive making. p.12

FOR SALE, several strong Italian 10-frame Stocks. Seen by appointment, or stamp reply.—W. EMERTON, Apiary House, Chalton, Dunstable, Beds. r.p.13

SWARMS FOR SALE, guaranteed healthy, in new skeps, £1 17s. 6d. May, June £1 5s.—H. SEAMARK, Skep Maker, Wellingham, Cambs. p.14

TWO sound double-walled Hives, 25s., 20s.; new Brood-hatching Chamber, 7s.; Queen Cell Nursery (Taylor's), new, 5s.; good Drawn Combs, 1s. 3d. Immediate delivery.—DYKES, Shortlands, Kent. p.16

FOR SALE, 5-frame Nucleus, Simmins-Bozzalla parentage, £2 2s.; large Geared Extractor, bargain at 25s.; Ripener, 2-cwt. capacity, 20s.; excellent condition; several Section Racks full foundation, 4s. 6d. each.—G. L. WILLIAMS, Raven Hill, Swansea. p.17

FOR SALE, Cowan's Geared Extractor, £4; Honey Ripener, £1; Solar Wax Extractor, 15s.; four 10-frame Hives (W.B.C. pattern), 15s. each; two Honey Tins, Section Racks, seven Shallow Frame Supers, four Queen Excluders, two Feeders, Frames and Sections, Swarm Skep, Clearer Boards, Uncapping Knives, Comb Foundation, Smoker, Spur Embedder, four Nucleus Hives, Section Block, etc. What offers for the lot?—GUY MASON, Barton-on-Humber. p.19

FOR SALE, four Stocks Bees, guaranteed healthy, 1920 Queens, £4 5s. each.—Particulars from IRVING, Galabank Apiary, Annan. p.20

NATURAL healthy Italian Swarms, disease-resisting strain, 40s.; Second Swarms, 30s.; package returnable.—CADMAN, Codsall Wood, Wolverhampton. p.18

FOR SALE, Bees, Hives, Combs, Excluders, Racks, all Appliances. Owner's death.—SPARKES, Chute, Andover. o.21

ITALIANS.—Three strong, healthy Stocks on 5 frames, 70s. each, 1920 Queens; box returnable.—BOWREY, Swallowfield, Berkshire. p.22

FOR SALE, two strong Stocks of healthy Bees, also Swarms.—HEWITT, Furners Green, Sheffield Park, Sussex. p.23

FOR SALE NOW, three 10-frame Stocks with 1920 Queens, Italian £4 10s., Hybrid £4 5s., Black £4; box 10s., returnable; carriage extra.—ASHWORTH, "Redfern," Limpsfield, Surrey. p.24

SALE, six W.B.C. Bee Hives, never been used, 25s. each.—J. W. CADMAN, 303, Alton Street, Crewe. p.25

BEE APIARY, as new, fitted with 16 hives, standard bars. Photo sent.—COLLEY, Preston, Yeovil. p.26

LT.-COL. C. WEAVER PRICE, O.B.E., M.C., Ashgrove, Brecon, has kindly consented to nominate the winner of the Bozzalla Nucleus offered in our advert. of April 14, and we hope to announce the prize winner May 12.—S. H. SMITH, 30, Maid's Causeway, Cambridge. p.27

BEE- AND POULTRY-KEEPING.—Six-roomed House, south aspect, newly decorated, lease 80 years, ground rent £3, outbuildings with carpenter's bench, ¼ acre sheltered garden, stocked fruit, two Stocks healthy Bees, poultry house, open run and scratching shed for 30 birds; on 'bus route; one mile Paignton; good market for produce; possession June; £800, or offer.—Hillside, Cellaton, Paignton. p.15

SURPLUS.—Stocks of Bees, Italian Hybrids, healthy and energetic, 9-10 frames, from 90s. Inspection invited by appointment.—FOSTER, "Lyndhurst," Cliffe End, Purley, Surrey. p.29

PEN six White Leghorn Pullets, 36s.; pen six White Wyandottes, 36s.; good Welsh Goat, white, full milk, £3 10s.—W. WOODS, Normandy, near Guildford. p.11

SALE.—Five well-made Hives, constructed on scientific principles, each with brood chambers and three shallow comb supers; six W.B.C. pattern Hives, each with brood chambers and two shallow comb supers; four Section Racks, complete; few Queen Excluders; no disease; obliged to clear; bargain for quick sale.—Apply, D., 8, Leyland Road, Lee, S.E. p.41

L.A.D. MOTOR SCOOTER, as new, £18.—R. P. SIMS, Winthorpe, Woodcote Valley Road, Purley, Surrey. p.36

SEVERAL very strong Stocks of Bees for Sale, Blacks and Hybrid; free from disease; prices from £4.—Apply, Box 24, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. p.37

FOR SALE, five strong Stocks on 10 frames at £3 10s. each.—Apply, W. WATTS, Thenhilde, Royston, Herts. p.40

WANTED, Geared Extractor in perfect condition, also Ripener.—Full particulars, lowest cash price, to CLAYTON, Quay, Dartmouth. p.39

FOR SALE, three good Stocks Hybrids, 4 gns each; also three Hives and etcs.—SIMPSON, Horsted Keynes, Sussex. o.122

30 STRONG, healthy Italian Stocks, £5 each; 25 English Blacks, £4 each; immediate delivery.—YOUNG, 42, James Street, Cambridge. r.o.123

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BOWEN'S WIRING DEVICE, real boon to everyone. Board, 7s. 9d.; Outfit, 11s.—BOWEN, Bee Appliance Specialist, Cheltenham. p.31

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ITALIAN QUEENS.—Mr. Robson, Wooler, writes 28/4/21: "I have had many Italian Queens, but none to compare with yours for this locality." See last week's advt. Delivery early June.—ELLIOTT, Ipswich. p.28

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1921 PURE FERTILE ITALIAN QUEENS, guaranteed direct from Penna. Regular supplies throughout the season commencing May 7. These genuine Italian Queens need no recommendation. Price, 13s. 6d.; selected, 15s.—GOODARE, New Cross, Wednesfield. r.p.35

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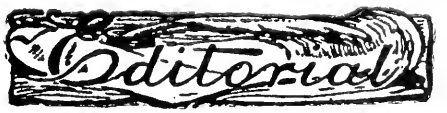

Reviews.

A Book About the Bee, by Herbert Mace, published by Hutchinson & Co., Paternoster Row. Price 4s.

Mr. Mace has for a long time contributed articles on bee-keeping to the Press. The book he has now written is not intended as a treatise on practical bee-keeping, but is just an account, written for those who are not bee-keepers, of the life and death of the hive bee. It will, however, be both interesting, instructive, and profitable to those who are interested in bees. It will also be valuable as an introduction to the more technical books, and we can heartily recommend it to those who intend to keep bees, as a work which will be a very readable introduction to the more advanced hand-books, as it gives much useful information without using the technical terms that are so puzzling to those unacquainted with modern bee-keeping and appliances. As Mr. Mace is a practical bee-keeper his book is with a few exceptions free from the errors often found in works of this character, though we cannot agree with all his statements, and in one or two instances he appears to have stretched a point in order to gain effect. For instance in speaking of the issuing of a swarm, we are told of the queen, on page 19, "ultimately she becomes so enraged that she leaves the hive followed by the greater number of the old bees," and on page 27, "she at last rushes out of the hive, and all the older members of the population go with her." Our experience is that the queen is seldom the first to leave the hive, and will at times refuse to do so at all, nor does the queen, as a rule, select the spot for the clustering of the swarm, as Mr. Mace intimates.

In an interesting chapter on "The Building of the City," Mr. Mace thinks it just possible that the building of the comb is not quite perfection, and says: "For instance, I have often thought what a convenience it would be if the brood cells were provided with a hinged lid which could be lifted up for the egg to be laid in, and shut down when the grub was full grown. Instead of that, these lids have to be made fresh, over and over again, during a single season." But would not those hinged lids be very much in the way when they needed opening in the narrow space between the combs in order to feed the larvæ? It seems to us it would involve more labour and waste of time than the well-tried method the bees use.

Speaking of bees fanning, Mr. Mace says: "These are the 'fanners' or ventilating bees, forcing air in to cool the heated interior." A little cotton wool, or even a short length of cotton, held near the fanners will demonstrate that the air is being drawn *out* of the hive, not being forced *in*.

Mr. Mace's account of the origin of honeydew is not very clear, for we are told: "It is an excretion from the plant, induced by the attack of aphides," and a few lines further on: "If an aphis is closely examined, there will be seen two little tubes on its back, standing up, from which by tickling the insect with its antennæ, the ant causes the honeydew to flow." The two statements are contradictory.

The chapter on "Bees and the Weather" is most interesting and instructive. Mr. Mace must have been at considerable trouble, and spent much time in collecting the information given. Every bee-keeper who obtains the book should make a special note of this chapter.

The illustrations, which are all photographs from nature (not drawings) are, with few exceptions, remarkably good, the least satisfactory are the illustrations of the growth of a queen cell, which are too indistinct, owing mainly, we think, to the photographs being taken through the glass side of an observatory hive. The illustrations of sealed worker and drone brood are admirable. The veriest tyro should be able to distinguish one from the other with these photographs as a guide.

Mr. Mace is to be congratulated on having produced a book that will prove interesting and readable to those who have never kept bees, and useful and informative to those who are bee-keepers. It may be obtained from this office, post free for 4s. 3d.

Jottings from Huntingdonshire

Anyone having lived during the last few years will have learnt the meaning of the word "substitute," unless totally blind, deaf, and altogether paralytic during that period. The optimist may even find consolation in the fact that the war has somewhat enlarged people's vocabulary, in that it has brought home to them the innermost meaning of many words with which before they had only a nodding acquaintance. Therefore, presuming all the "B.B.J." readers have learnt the characters of these words inside and out, let me warn them:—This, which they now read is "a substitute," for whereas the usual "Jottings" are signed "E. F. H.," these

bear another "trade mark" as it were, "L. E. H.," the which, however, some may remember to have seen before in these pages. Advertisements always say, "Beware of Imitations," therefore if any feel their endurance cannot stand anything under the usual standard of "Jottings," beware of these, and leave them alone.

I shall not attempt to produce anything learned, for a little knowledge is a dangerous thing, but will place before the indulgence of the reader various odd fragments, the only connecting link being, of course, bees. I thereby hope to cover sufficient paper to satisfy my father, who, not to particularise, is occupied rather more than usual, and has accepted me in the emergency as—a substitute.

Although the bees are a most enthralling subject to the head of our household, the rest of us find it impossible to keep in fair comfort a cat and a dog. You may begin to wonder if I am already about to wander off my subject, but it is not so, as you shall see if you will have patience.

The cat was installed here about a year ago, and six months later there was another arrival in the form of a spaniel puppy; since then the poor cat has had no peace. Soon the warfare grew very unequal, for the size of the spaniel increased exceedingly rapid, and poor pussy was forced to seek refuge from the rather violent attentions of her would-be playmate. Sanctuaries were not as numerous as one might suppose, but the two chief havens of refuge were peculiar but adequate. Indoors the kitchen dresser was puss' most peaceful domain, but outside, to all appearances, the bee-hives were her refuge camps. On the top of these low wooden houses she sat, there the dog dared not touch her. Whether he had been stung by the hive inhabitants, and had not forgotten, or had an instinctive feeling that they might be hostile, I cannot tell, but the fact remains it was the one thing that successfully turned him back from his pursuit. Round and round he would go, with the hive as the centre of his circuit, and a radius of some 12 or more feet; there was an unyielding barrier between himself and his aim, but what was the barrier? I leave you to make it what you will, then you cannot fall out with my opinions.

I expect bee-keepers would see another side to this picture. The cat, as well as gaining safety on the hive tops, may have had a meal in her mind, for, unfortunately, the mice are bolder creatures than the spaniel puppy where the bees are concerned. I do not, I may as well inform you, stand rooted to the spot and use my lungs lustily at the sight of a mouse, but still they are not quite friends of mine. The other day I was with my father when he took off the top of a disused hive, and inside was a mouse. There was a valiant effort to catch it, but the first attempt resulted in a severed tail, and no more. The creature took refuge in a heap of garden rubbish, from which we drove it, and brought it to its death.

Would you like to know the end of this unfortunate adventure? The before-mentioned puppy devoured it.

From all this you might gather that no member of a bee household escapes from their influence, whether for better or worse, as I dare say most of the readers will know.

With this maxim I leave you, having somehow covered nearly five sheets of paper, and enjoyed writing them, perhaps more than you will have enjoyed reading them.—Lois E. Hemming.

A Dorset Yarn.

A week of varied weather, cold nights and cold rains, but bees are going strong in Dorset. Some of the stocks have the second rack of sections given them; others have the first one placed on the brood chamber, some with an excluder, some without. We had a good many unfinished sections left last year, and we are giving three of these to each first rack of sections. Our bees emptied the whole of them the first night, but on the third day they reversed the order, and brought up the shiny liquid into the cells again. There is no doubt about the time to put on surplus racks; when bees draw out the combs along the tops of bars they must be given more room, or swarming will begin, though this changeable weather has stopped the swarming fever for a time.

My nearest neighbour has four skeps, which are very strong, all swarms in 1920. Fourteen days back they were hanging round the entrance day after day, but they have not swarmed yet. He has bought a new W.B.C. hive, and made other new ones from the pattern, all the bars with foundation ready, but he is still waiting for the swarm. The cold nights and showery days have made the workers decide that it is too risky to have the mad gambol of changing homes. I advised him to put one on the top of bars, but he is still waiting for swarms. Personally, I do not think he is wise, the skeps must be crowded with bees; each day many more must be leaving the combs; the queen cannot be doing her best. I purchased seven 1920 swarms from a farmer in the Isle of Purbeck, all blacks, some of them in Australian butter boxes 16 in. to 18 in. deep, and about the same in width. Two of them were very heavy (those who lifted them gave the weight at 50 or 60 lbs.). One was put on a box of extracted combs; the box was wide enough to cover the bars lengthways, leaving a bar and half on one side to be covered with canvas. The owner said they had been hanging out for swarming the week previous; these, like my neighbour's, were still waiting for a favourable opportunity to swarm, but when they had eleven bars of drawn-out combs beneath, the "spirit of the hive," as Maeterlinck wrote, "the workers decide," they at once began the massacre of the hundreds of drones, great black fellows slaughtered wholesale. Now that the showers have come this hive is one loud roar of contented bees.

This morning (Sunday) it is raining very

hard, they cannot go out, but there is plenty to do to repair the combs beneath, and drag out these big, fat drones. One can only assume that these are working, while those in skeps that have not swarmed are only "marking time." The workers keep the queens apart for a limited time, but not for a long period, if weather is unfavourable, and the young queens have all developed in bad weather. They will have to raise others; the workers do not "will that swarms shall take place until provision is made for a young queen to carry on."

Last season I put two straw skeps on two lots of bars, which they soon filled, and the last one filled the whole skep with honey, which was then broken up and strained off. Each of the four stocks have lived through the winter; one of them has the second rack of sections. As soon as the queen had taken to the new combs, and was seen below the skep, it was taken off and given another lot of new bars with full sheets of foundation: the second lot had the skep left till August, and it was then full.

We have one bar-frame hive of thirteen frames (with two racks of sections), which have begun lining up the outside of brood chamber with crowds of bees, a preliminary for swarms. The combs in this hive are ten years old. They have never been renewed all that time, and the combs have never been without bees: they are in a margarine box with the bottom left nailed on, a small piece of the bottom taken off the back and front; the box resting on two pieces of wood on the flour board, the bees can get in both at the back and front. Bees have a free way all round the brood box; the outer case is made with Tate sugar boxes tarred over: bars have some of the ends broken by levering off section racks. One of them has dropped in one side, so part of the bars have not been moved for some time. Last year, when bees hung round the inside for swarming, I gave them another box of standard bars on top of the old combs. This delayed swarming till the end of July, then the upper box of standard bars was taken off and put into a new hive, and the swarms given to it. This has come through the winter well, the parent hive is one of the best this year.

In the next village of Lychett two bee-keepers came to the village expert for arbitration. One of them had a swarm from a skep (these always seem to swarm early); it took possession of another bee-keeper's bar-frame hive, who said bees had been particularly busy at that hive for some days.

Mr. Dance (the village expert) took each of them to his own hives, and removed some combs, showing them that if bees were working on them there would be plenty of larvæ of all ages in the combs, but if a swarm had taken possession of a neighbour's hive there would be no brood. Each agreed that they would abide by his decision. On going to the bar-frame hives one was found to be without any brood or eggs. The swarm must have taken possession, and the bees that had been seen were the scouts looking for a suitable home for the swarm when it should migrate. It was an old hive, the man who had only skeps before has now a bar-frame hive, as he took both bees and hive.

On May 2 we took out three combs from a very strong stock, and placed in another hive with drawn-out combs; these three combs had plenty of bees and capped brood. We gave the parent stock three bars with drawn-out combs. On Thursday, the 5th, we put on the first rack of sections. We took out these three combs for inspection, and found that the upper half was heavy with newly-collected honey. This lot is in a field of black currants and apples. Only three days, yet that stock had gathered fully 3 lbs. of nectar; it proves that it is only the strong stocks that pay. — J. J. KETTLE.

Jottings.

Vindictiveness Misplaced.—A few fowls met with a somewhat strenuous, and unmerited, reception a few days ago at the apiary of a friend. A small netting run had been moved slightly in the line of flight, and for some reason the bees attacked the fowls mercilessly. One poor thing is permanently blind, the wattles and combs in other cases have almost disappeared, and blackened, after fourteen days: the parts were full of stings.

Unfortunately the owner was away from home. A neighbour tried to release them, but had to retreat, leaving one behind, which appears to have had the full onslaught, and was too stupid to move.

Disease v. Starvation.—A good many colonies, several of which are in skeps, have gone under in this locality this winter, or rather spring, emphasising the need for some better system of national supervision and assistance to ensure better conditions of health and food provision, and show quite clearly, apart from disease, bees, seasons permitting, accomplish naturally the most important part of their own preservation.

But once the need for real human assistance comes and this has been so for several years—the last more especially to my mind—how many of us fail to respond, or to take the slightest precaution to ensure the bees a sporting chance of maintaining life? I received a letter the other day telling of someone who had lost a dozen stocks owing to the extremely mild winter. What an apology! What right have we to withhold food: and, taking the larger view, what right or use is it for the Government to assist, or to waste money in restocking, unless prepared to say, "This must not occur," and is the time not ripe to insist by law that the prospective bee-keeper should possess a certificate showing that he had at least knowledge of the management necessary in a season's care of a hive of bees?

A. H. HAMSHAR.

April 25, 1921

Acari and the Need for Legislation.

I have already given a short account of the acarus *Tarsonemus woodi* in the B.B.J. A further contribution might be of interest to the readers of the Journal.

It is fully established that the acari, *T. woodi*, are definitely associated with the symptoms of "Isle of Wight," viz., crawling and distorted wings. There may be other factors which cause crawling, and I myself believe there are. Stocks exist where bees crawl, but no internal acari are to be found. On the other hand, there are stocks where there is little or no crawling where the *flying* bees are found to be infected with acari, and yet the bees recover in a mysterious manner. I feel convinced that, although one very definite cause of "Isle of Wight" has now been determined, yet there are others as yet undiscovered. There is more work ahead. But the discovery of *T. woodi* is immensely important, and when a method is discovered of destroying the acari we shall be in a very much happier position than we are at present.

My own work on the subject may be of interest, and therefore I venture to offer a few remarks.

I find that it is possible to determine definitely if bees were affected with acarine disease, although the bees have been dead many months. The dead acari are to be found in the trachea quite easily; in fact, more easily than in live bees.

I find that queens of stocks which have died out through acarine disease are invariably affected. This seems always to be the case if *all* the bees are dead. The queen seems to be able to lay when heavily infected, and is able to resist the presence of the acari longer than the workers.

I find that drones are equally affected with the workers.

While the stock is still alive I find that the workers are affected more than the drones, and the queen seems to be affected later than the drones and workers.

Fig. 1 shows a photomicrograph of part of the trachea from a worker which was carrying pollen and was captured on entering the hive. The trachea is seen to be blocked with the earlier stages of the acari.

Fig. 2 is of interest in that it shows the metamorphosis from the larva to the nymph. The larva has three pairs of legs, which are very short. The front ones are slightly larger than the others. The nymph is seen in process of development within the larva.

(To be continued.)

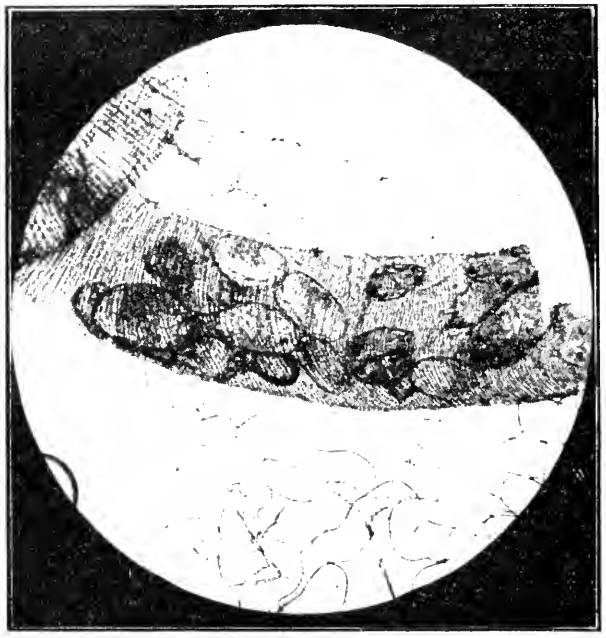

FIG. 1.—TRACHEA BLOCKED WITH ACARI.

Bee-Breeding in Canada.

BY F. W. L. SLADEN, DOMINION APIARIST.

The Bee Division has been for some time conducting experiments in the isolated mating of queen bees.

In the summer of 1913 Italian queens and drones were brought to an isolated place on the Kazubazua plains, about fifty miles north of Ottawa. Although no colonies could be discovered within three miles of this place, the colour of the workers produced was darker than that of pure Italians, showing that the queens had been mated by local black drones.

Another attempt was made in the same place in 1914. Fourteen queens of non-swarming parentage were mated there with Italians during the first week of October,

after most of the local black drones had died off. Twelve of these queens were tested the following year, but a large proportion proved unprolific, and the conclusion was reached that the queens had become impaired by being reared and mated so late in the season.

Attempts made at Ottawa in 1914 to get queens and drones to fly and mate later in the day than the regular hours showed that this plan, too, was impracticable.

In July, 1918, a number of queens were bred at Ottawa from non-swarming parentage and were taken in baby-nuclei with selected drones to Kapuskasing in northern Ontario. It was believed that no other bees existed at or near this place. Several matings were obtained, but a number of the nuclei swarmed out because of the small size of the boxes combined with the great and sudden changes in temperature of the north country.

In 1919 sixteen queens and five hundred drones were taken in nuclei on regular Langstroth frames to Duck Island near the eastern end of Lake Ontario. This island is eight miles from the nearest islands and eleven miles from the mainland. Twelve of the queens began to lay soon, but six of these produced drones only and the other six varying proportions of drones and workers. The cause of the imperfect mating was not ascertained, but it may have been that the drones were too young or too few. This experiment, however, gave much useful information. It gave evidence that the bees sent to Duck Island were isolated and that the proportion of queens lost in mating under the conditions on the island was not greater than on the mainland.

The Duck Island experiment was repeated in 1920 on a larger scale. Sixteen nuclei containing fifteen virgin Italian queens of non-swarming parentage (two of them emerged on July 19 and thirteen on July 25 and 26), with 2,128 drones that had emerged between July 20 and 24, were brought to Duck Island on July 28, just as the basswood flowers were beginning to open. Eleven of the queens, including the two emerged July 19, mated quickly and perfectly, producing large patches of worker brood. The four remaining queens were lost.

Nine more queens that had emerged August 1 and 2 were taken without more drones to the island on August 3. Seven of these were mated perfectly and two lost.

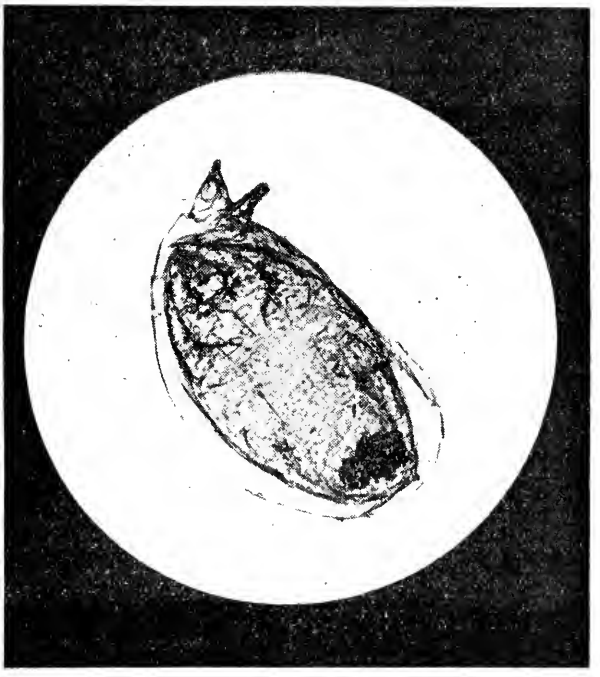

FIG. 2.—DEVELOPMENT OF NYMPH OF T. WOODI.

Twelve more queens that had emerged August 7 to 11, brought August 12 without drones, resulted in nine perfect matings, two matings producing partly drones and partly workers, and one queen lost.

The workers produced from 26 out of the 27 perfect matings were examined: they were lightly coloured enough to show that the queens were mated with Italians. This helped to support the evidence that they were mated with the drones brought, because the colonies on the nearest mainland, Point Traverse, Ont., were found to be mostly black bees.

After the removal of most of the queens on August 30 and 31, queens and drones were raised fortuitously in some of the nuclei, and

when the latter were removed from the island on September 23 it was found that a honey flow from aster was proceeding and that several of these queens had begun to lay

Six of the successfully mated queens were mailed to branch farms, the remainder were introduced to colonies at the Central Experimental Farm.

It is planned to test the island-mated queens for non-swarming and honey gathering in 1921, and from the best of them to rear queens and drones for mating on Duck Island during the basswood honey-flow between July 25 and August 10, and possibly also during the aster flow in September.

It is also planned to commence the distribution of virgin queens, and, if possible, a few fertile queens, raised from the best Duck Island stock. Special directions for safe introduction into newly formed nuclei will be sent out with the virgin queens, and it will be possible for a bee-keeper to raise a sufficient number of drones from a few of these queens the following year to mate a proportion of any further virgins he may obtain

Corsham and District Bee-Keepers' Association.

The first meeting of the season was held on Wednesday, April 20, at Mr. Golding's residence, Peckwick. There were present General Lord Methuen, Admiral Sir C. Briggs, Miss Maidment, Messrs. Brown, Ottaway, Golding, Ashe, Funnel and Brain.

Admiral Briggs was re-elected President, Mr. Brown treasurer, and Mr. Golding expert, who also consented to retain the post of secretary, pro tem.

The financial statement showed a balance in hand of £3 1s. 10d., which was considered very satisfactory, as the Association is just entering on its third year

Some of the members reported very favourably on their stocks, while others have sustained losses.

A committee was formed to arrange for a series of lectures; Lord Methuen kindly offering the use of a room.—V. S. Ashe, Yatton Keynell.

Wickham Bishops and District Bee-Keepers' Association.

The spring meeting of members was held at Mr. G. Lake's apiary on April 27, a perfect day for examining bees—a real summer day. Eighteen members were present, and an interesting and profitable demonstration was given by Mr. T. Hammond, the chief feature of which was to show how to form nuclei from one stock. A hive with ten frames of comb was found filled with brood and above these another box of ten combs contained four well filled with brood. As soon as all twenty combs are filled they will be divided into nuclei of three combs, and have young queens introduced, thus increasing the parent stock by six. The next meeting of the Association was fixed to be held at Miss Younghusband's apiary, Braintree, on May 25.—*(Communicated.)*

South African Association of Bee-Keepers.

As a result of a largely-attended and supported conference of bee-keepers held at Johannesburg on March 28, a South African Association of Bee-keepers was formed. The objects of the Association are:—

"To encourage the scientific advancement and improvement of apiculture throughout Southern Africa; to promote intercourse of societies and individuals interested in apiculture; to further the development of bee-keeping with its commercial by-products; and to publish a journal and report of the transactions of the Association."

The Association has made all arrangements to publish a "Bee Journal," which will be its official organ, and is intended as a medium to help the novice as well as the advanced bee-keeper, and also to act as an exchange of views on all matters appertaining to apiculture.—C. R. Brooks, Hon. Secretary.

Hunts. Bee-Keepers' Association.

May I be allowed to state that the Hunts. Bee-Keepers' Association have been asked to run a honey show in connection with the County Agricultural Show, to be held at Ramsey on Wednesday, June 8? There are three open classes—for sections, extracted honey, and wax—and we hope bee-keepers of other counties will, despite the early date of the show, help us in making the show successful. The prize money is guaranteed. Further particulars in the advertisement columns.—E. F. Hemming, President of the Hunts. B.K Association.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

A Curious Experience.

[10445] I have just had a curious experience with a stock of bees which I thought was a good strong one.

About three weeks ago, on a warm day, I examined to see if the stores were sufficient, and found a nice lot of bees, but the brood was all drone!

I have to-day destroyed the lot, and found a nice-looking queen, but the bees were nearly all drones.

I find that this stock swarmed in July, and I have a note that on August 9 drones were being expelled, but on August 24 I examined and found scarcely any brood, but a nice young queen; but, as my other stock had ceased raising brood, I put it down to

the abnormal season, and fed it up in September. Is it possible that the young queen of August was never fertilised? or was a queen raised later?

This lot of bees was quite strong in February, and I should like to know whether bees hatched in July and early August could come through the winter. What is your opinion? RICHARD H. AMIES.

April 20, 1921.

[We cannot say what happened with regard to the queen. If the brood seen in August was *worker* the queen had mated, but had disappeared after the drones were expelled, a young queen being raised afterwards and failing to mate. The drones being killed off points to the above being the solution. If the brood in August was *drone* then probably the queen raised in late July did not mate. The length of life of the worker bee depends on the amount of work it does, so if those raised in late July and early August did little work they might possibly survive the winter.—EDS.]

Removing Bees from Tree.

[10446] I read with great interest the note in the JOURNAL of May 5 on "Removing Bees from Wall," because I know a tree in which a stock of Italians established themselves last year. They have come safely through winter, and seem quite strong. I cannot, however, follow the instructions given in the above-mentioned note, as the tree stands near a road used by farm carts, and if the bees are disturbed it would render the road unsafe for these horses. The hole which the bees use as an entrance faces the same direction as the road, but the bees seem chiefly to fly across the road. If any reader has had experience in removing bees from a similar position I would be very grateful if he would communicate with me, either direct or through the pages of the JOURNAL.

A. C. FRASER, Caistor, Lincs

May 6, 1921.

Bee Stings.

[10447] Whether I am justified in utilising the valuable space of the "B.B.J." on such a seemingly trivial subject I leave to the discretion of the Editor.

On Thursday last (April 28) I was opening the entrances of one of my hives when I unavoidably squashed a drone. I was, in consequence, stung by a "sympathetic" worker on my face. I felt the slight "bruised" feeling, but that was all. No swelling subsequently came.

Yesterday (May Day) I transferred a 1920 stock to a new and clean hive, and though I am but a yearling bee-keeper, I think I did the job properly, carefully, and in a bee-keeper-like manner; at any rate, the bees are happy now, and were so last night.

During this operation, however, I was stung twice on the hand, once on each ankle (I was wearing stockings) and once under the right eye. The subsequent swellings in all places were, and still are, most pronounced, covering a large area, and very painful. Last night (about four hours after the actual stings), without warning, I suddenly nearly fainted, and had to lay down for a while.

I may add I am a normally healthy man of thirty, having had four years of Salonika's unpleasant climate during the war.

Can anyone explain the sudden difference in the effect of the stings?

My bees are a cross Black and Italian, and more of the Black than Italian. Of course I have often been stung by bees before.—D. H. B. HARFIELD (Major), Hardley, Hampshire (New Forest), May 3, 1921.

Brotherhood: A Suggestion.

[10448] Though twenty years and more of soldiering have precluded my serving a longer apprenticeship in bee-craft than the last two years (I began with three stocks in 1919), yet that time has been ample to demonstrate one invaluable feature in bee-keeping, and that is the strong fellowship that exists between bee-lovers, regardless of age or class distinctions. Indeed, our little friend, the worker, seems to have solved the social problem with the same thoroughness that she applies to the problems of her own community!

Surely, Sir, now is the time, if ever there was one, to foster this fellowship for all we are worth. May I suggest, then, through the hospitality of your columns that all bee-keepers and bee-lovers in the kingdom be invited by the B.B.K.A. through the medium of local associations to band themselves together in one Brotherhood. This, I suggest, might be simply and effectively styled the "Bee Brotherhood," and its members be distinguished as such by the wearing of a simple metal badge modelled in the form of a worker-bee — H. W KETTLEWELL, Lt.-Col.

Onions and Acarine Disease.

[10449] Two stocks, badly affected at the end of March, which I was about to kill off, were treated by placing about four large slices of onion under the quilts on top of the frames, over or near the cluster, and renewing them daily at first, and later at less frequent intervals.

In four days crawlers and other symptoms had almost disappeared; fine weather at the time and a nectar flow may have influenced the result. Now, at the end of April, although very weak, they are building up slowly in spite of the past bad weather.

"Bacterol" was used in the syrup at the time, but this was altered to "Yadil," which is still being used.

Two other neighbouring stocks, apparently slightly affected, were also treated with the same result.

I killed off five stocks affected with the disease last September, and all the bees in the neighbourhood, including my own, died off in 1911 and 1912. This treatment of the stock may affect the mite in the spiracles of the bee, and appears to call for further experiment.—C. H. RIVERS, near Southfleet, Kent.

May 1, 1921.

Acarine Disease.

[10450] With reference to the Editors' query in my letter No. 10432, re the above, I would suggest that the acarus may owe its origin to the decomposition of undigested pollen.

We do not yet know the life history of this mite. When we think of pollen, we must not lose sight of the fact that it is not really inanimate. It contains the life germ, which in the ordinary course of events would be utilised to complete the union between the sexes to perpetuate the species. Supposing the pollen grains pass through the chyle stomach into the intestines without being digested, and then, owing to a stoppage in the bowels, decomposition takes place, which may, with the body heat, cause a transformation or evolution of the life germ into the micro-organism known as the acarus.

It may be said such a thing is impossible, being of a different order, but the dividing line between the kingdoms is not always very clearly defined, and much has yet to be learned about these infinitely small forms of life.

When once it springs into life it would not be a very difficult matter to pass from the intestines to the trachea.

I am putting this suggestion forward because it may lead to investigation being carried out on lines that may be overlooked by someone who is fortunately better equipped than I am.

I would like to ask the Editors in return how do mites get into cheese, and how do living micro-organisms get into water that has been allowed to remain stagnant for a few days?—T. H. WITNEY, 139, St. Andrew's Road, Walthamstow, E.17, May 2, 1921.

["Like begets like."—EDS.]

Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.

Peculiar Behaviour of Bees.

[9924] When casually looking round my hives on April 11 I noticed a large number of drones flying in front of one hive, and on closer examination noticed a number of drone grubs which had apparently been torn out of the combs and thrown outside.

I examined the brood chamber, and to my dismay found that all the combs were ruined, having been drawn out in a most irregular manner; the queen appeared to have deposited her eggs in the worker cells, and the latter afterwards drawn further out and enlarged, with the result that every bee hatched (and those in course of incubation) were drones; in fact, there has not been a single worker bee hatched out this season, and no signs of any, as practically every comb is clogged with hatching drones.

The queen which I found in the hive appeared to be in a healthy condition and was a young one direct from Italy last June; she then laid well, and raised a splendid strong stock which wintered well.

As an old reader of your journal, I should be glad if you would give me cause of this and remedy.—ANXIOUS.

REPLY.—The queen had either been injured or superseded and the young one had not mated, consequently she is a drone breeder. The best thing to do will be to unite to a colony having a mated queen. The colony may, of course, be re-queened, but as the workers left are all aged, it would probably be a difficult matter, and a few days before attempting to re-queen the colony should be given one or a couple of combs of capped and emerging brood.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d. up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 8, at Ramsey.—Huntingdonshire Agricultural Show. Bee and Honey Department in charge of the Hunts Bee-keepers' Association. Open Classes for Honey (comb and extracted) and Wax. Prices, 10s., 5s. and 2s. 6d.—Schedules from Mr. F. Tunnington, Thrapston Road, Brampton, Hunts. **Entries close May 31.**

June 8 and 9, at Rochford.—Essex Agricultural Show. Bee and Honey Department in charge of Essex Bee-keepers' Association. Sixteen Classes, all but one open. Silver and Bronze Medal, and many prizes.—Schedules from G. R. Alder, Hon. Secretary, E.B.K.A., 7, Bulwer Road, Leytonstone, E.11.

June 15 and 16, 1921, at Burton-on-Trent.—Staffordshire Bee-keepers' Association Show in connection with the Staffs. Agricultural Society. Four Silver Medals and five Bronze Medals in Local Classes, one Silver Medal and one Bronze Medal in the Open Classes.—Schedules from W. Griffiths, Solway House, Silkmore, Stafford. **Entries close May 28.**

June 28 to July 2.—Derbyshire Bee-keepers' Association's Show in connection with the "Royal" at Derby. Open Classes, good cash prizes and gold medal offered.—Schedules, apply F. Meakin, 37, Pybus Street, Derby. **Entries close May 30.**

July 20, at Alexandra Recreation Ground, Surbiton.—Surrey B.K.A. Show. Twenty Classes. Two Challenge Trophies, ten Silver, and 15 Bronze Medals. Nine Open Classes.—For Schedules apply Hon. Sec., W. E. Hamlin, 43, Norbury Court Road, Norbury, S.W.16.

July 20 and 21, 1921, at Cardiff.—Cardiff and County Horticultural Society's Show, Sophia Gardens, Cardiff. Bee section under the auspices of the Glamorgan Bee-keepers' Association. Open Classes.—Schedules to be obtained from the Hon. Secretary, Chas. F. Davies, 5, Borstal Avenue, Cardiff.

Saturday, July 30, and Monday, August 1, 1921, at Lichfield.—Lichfield Floral and Horticultural Society's Show. Bee and Honey Section under the auspices of the Staffs Bee-keepers' Association. All classes open.—Schedules may be obtained from the Hon. Secretary, A. H. Perrins, 30, Tamworth Street, Lichfield, Staffs.

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 7s. per ½in., or 12s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on MONDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

BEESWAX, pure, for Sale, 5 cwts., packed in ½-cwt. bags, £8 16s. per cwt. net, f.o.r. London.—Apply, Box 25, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. r.p.44

WANTED, long Show Honey Bottles.—BISHOP, Woodswater, Beaminster, Dorset. p.46

EXCHANGE for Bees, etc., Fallowfield ½-plate, Klito ¼-plate, case and accesories; sell £7 and £3.—BICKER, Minster Road, Westgate-on-Sea, Kent. p.47

HEALTHY big Swarms, May 1, price, carriage paid, £3 10s.—G. A. GILLETT, Moreton-in Marsh, Glos. p.48

EXCHANGE FOR BEES, ½-plate Camera, three double dark slides, iris diaphragm, lens, Thornton-Pickard shutter, tripod, and strong leather case.—MALLINSON, Theakston, Bedale. p.49

WANTED, May prime Swarms, not less than 4½ lbs. State price per lb.—VINCENT, 132, Croydon Road, Anerley, S.E.20. p.50

OWING TO REMOVAL.—Twelve fine, healthy Stocks of Italians, highly disease-resisting strain, very prolific, excellent honey gatherers, and all headed with 1920 Queens.—HUDSON, "Sunny Vale," Rockley, Retford, Notts. r.o.139

FOR SALE, ten clean, strong Stocks Italians some with Penna and Bozzalla Queens, imported 1920, others bred from Penna Queens last year, price £5 per stock, f.o.r. Hatfield; boxes, returnable, 10s.—Apply, THOS. G. WALKER, Symonds Hyde, Hatfield, Herts. p.52

SIX new W.B.C. Hives for Sale, never been used, 25s. each.—C. GIBSON, Radwinter, S. Walden, Essex. p.54

FOR SALE, 127 Card Section Cases, 20 Grooved Sections, 54 wide Metal Ends, 2 Skep-making Needles; all above new and unused; six Queen Excluders, zinc (used). Stamp reply.—Offers to CORNEY, Bee-keeper, Ramsey St. Mary's, Huntingdon. p.56

SPARE NEW HIVES, to super with standard frames (holds 22) or sections, oak legs, painted, 27s. 6d. each.—COX, 116, Addison Road, Kings Heath, Birmingham. r.p.55

HAVING sold bees due to removal in June, must sell Apparatus cheap to clear. Four Hives, cost £16 to have made last year, built on lines of Abundance hive, with Conqueror type entrance, 11 bar standard brood drawer, two shallow drawers, two section racks, 45s. each; one W.B.C., N.S. Chamber, 35s.; two Telescopic Hives, 20s. each; one 12 bar, 15s.; all well painted, perfect condition; 36 drawn-out Shallow Frames, wired, metal ends, 14s. dozen; 30 made-up Shallow, wired, for 10s.; 100 folding card Section Cases, 7s. 6d.; 250 new 4-way split top Sections, 4s. 6d. per 50; 150 slightly soiled, 2s. 3d. per 50; 100 Metal Dividers, good as new, 6s. 6d. per 50; six new Postal Queen Cages, 4s. 6d.; 10 Section Racks, 2s. each; all well packed, f.o.r.; approval willingly.—F. HOOD, Horton, Slough. p.53

FIVE HIVES, with lifts, and two nuclei, new; five Excluders, Wilks', three new; 60 Frames, super 1¼, ditto; Extractor; two Swarm Catchers; 100 Sections, new; two Section Racks; Taylor's Patent Feeder; 10 lbs. of Super Foundation (assorted); 100 Metal Ends; two Honey Tins, 28 lbs. each); 5 lbs. of Candy; two years "B.B.J." and other Books, £5 5s. lot.—WILLIAMS, 3rd Bungalow, Billicombe, near Plymouth, South Devon. p.57

EIGHT HIVES for Sale, second-hand, complete, two W.B.C. and others, £1 each.—Miss GORDON, Wethersfield, Braintree, Essex. p.58

NATURAL ITALIAN SWARMS, disease-resisting strain, 40s.; Second Swarms, 1921 Queens, 30s.; package returnable.—CADMAN, Codsall Wood, Wolverhampton. p.59

HAVING no time during the coming season to attend to my Apiary, I have decided to sell Bees, Hives, Appliances, including an up-to-date Geared Extractor, Ripener, etc., etc., by Auction on Saturday, May 21, at 3 o'clock, at my Garden, five minutes from tram terminus. There will be some good bargains. No disease.—URIAH WOOD, Arnold, Notts.

PEN six White Leghorn Pullets, 36s.; pen six White Wyandottes, 36s.; good Welsh Goat, white, full milk, £3 10s.—W. WOODS, Normandy, near Guildford. p.11

TWO exceptionally strong 10-frame Stocks, believed pure Italians, each headed pure Italian Queen imported direct from Piana, Italy, price £5 each, delivered free.—MILLER, Croft, Hampton-in-Arden, Warwickshire. p.61

200 SHALLOW COMBS in perfect condition, 18s. per dozen, carriage paid; boxes returnable.—ARNFIELD, Breinton, Hereford. r.p.76

STRONG STOCK healthy Italians, strong Hive, Extractor, Feeders, two sets of Supers, Smoker, etc.; £9, or nearest offer.—SQUIRE, 8, Dalmeny Avenue, Camden Road, N.7. p.74

1921.—FOUR STOCKS OF BEES, headed with Italian Queens direct from Italy this week, £5 5s. each; also three Stocks with 1920 Queens, £4 4s.; Hives, 25s. extra; Nucleus with 1921 Italian Queen, £3 3s.—WIGGINS, The Bungalow, Norton Road, Wemberley. r.p.75

TWO CONQUEROR HIVES, £3 3s. each.—R. P. SIMS, Winthorpe, Woodcote Valley Road, Purley, Surrey. p.77

FOR SALE, healthy Italian Hybrid Swarms, May, 35s.; June, 30s.—J. M. WILKIN, Pymoor, Ely. r.p.1

SUSPECTED BEE DISEASE.—Will bee-keepers kindly forward samples for research purposes?—DR. SMITH, 5, West Castle Road, Edinburgh. r.p.6

FOR SALE, 61 lbs. good Welsh Honey. Best offer.—JAMES, Adpar, Newcastle Emlyn. p.9

FOR SALE, several strong Italian 10-frame Stocks. Seen by appointment, or stamp reply. —W. EMERTON, Apiary House, Chalton, Dunstable, Beds. r.p.13

BEE APIARY, as new, fitted with 16 hives, standard bars. Photo sent.—COLLEY, Preston, Yeovil. p.26

SEVERAL very strong Stocks of Bees for Sale, Blacks and Hybrid; free from disease; prices from £4.—Apply, Box 24, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. p.37

FOR SALE, five strong Stocks on 10 frames at £3 10s. each.—Apply, W. WATTS, Thenhilde, Royston, Herts. p.40

30 STRONG, healthy Italian Stocks, £5 each; 25 English Blacks, £4 each; immediate delivery.—YOUNG, 42, James Street, Cambridge. r.o.123

PURE LIGHT CAMBRIDGE HONEY, extra fine quality, 13-lb. tins, 17s. 6d.; 28-lb. tins, 36s. 6d.; carriage paid; sample 4d.—YOUNG, 42, James Street, Cambridge. r.o.124

DRAWN-OUT SHALLOW COMBS, 1s. 3d. each; bodies for same, 2s. 3d. each.—CRAWFORD, Apiaries, Castlederg, Co. Tyrone. o.130

TWO treble-spring Cricket Bats, almost as new, 20s. each; worth double. — CRAWFORD, Castlederg, Co. Tyrone. o.131

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

WANTED, on loan, or to buy, a Book on Foreign Birds for the Aviary. — W. HERROD-HEMPSALL, W.B.C. Apiary, Old Bedford Road, Luton. r.o.142

EIGHT 6-frame strong Stocks Italian Bees, 63s. each, headed by Penna's Imported Queens, carriage paid; guaranteed healthy; delivery about May 17.—ENNEVER, Oak Avenue, Enfield. r.o.80

BEE-KEEPING.—Correspondence Course. Practical and theoretical study. Stamp.—MISS PALING, Golden Square, Henfield, Sussex. r.m.89

BEES.—Five Colonies on 10 frames each, all healthy and strong Hybrids. Offers for the lot or separately.—LOCK, St. Ivel, Alexandra Road, Watford.

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BEES AND QUEENS FOR 1921.—Send for our Catalogue, free on application.—PEARSON & GALE, Marlborough. r.n.174

BOWEN'S BEE GOODS.—Always reliable: quick despatch; booklet free.—BOWEN, Coronation Road, Cheltenham. p.65

ITALIAN QUEENS, home bred, hardy, prolific strain, end of May-June, 12s.; July, 10s.; Virgins, 5s.—MISSES PALING & PILLANS, Golden Square, Henfield, Sussex. r.p.67

1921 PURE FERTILE ITALIAN QUEENS direct from Abbé Warré, France. One large bee-keeper had 18 of these queens in 1919 and 42 in 1920. 9s. each. June delivery.—ELLIOTT, "Westfield," Kelvin Road, Ipswich. p.51

OWING to severe frosts in S. Europe all Carniolan Queens are running late in delivery.—B. WOODLEY, Thorne, near Doncaster. p.60

LT.-COL. C. WEAVER PRICE, O.B.E., M.C., has awarded the Bozzalla Nucleus offered in our advert. of April 14 to A. Wood Smith, West Castle Road, Edinburgh. We wish to thank the judge for his careful consideration of the many suggestions which came in.—SMITH, Cambridge. p.62

MR. NOEL DOCKER, of Bosley Wood, Christchurch, Hants, has the undermentioned Blue Beverens for disposal:—Four Does, 10 months, £1 each, or lot for £3 10s.; one Doe, eight months, 15s.; and my best Buck, £1 5s., guaranteed unrelated to above stock. They all have perfect texture and colour. p.63

SELECTED ITALIAN QUEENS, 12s. each. First consignment sold. Book for successive consignments. Wire urgent orders.—BOWEN, Queen Importer, Cheltenham. p.64

SPLENDID VALUE.—Three-frame Nuclei with selected Cotswold Queen, £2 15s.; despatched forthwith; booklet.—BOWEN, Queen Breeder, Cheltenham. p.66

ITALIAN NUCLEI, 4 frames, £2 5s., May-June, healthy, carriage paid; cash with orders.—ATKINS, West Grove, Walton-on-Thames. r.p.68

ANY 3-framed Nuclei ordered now for delivery between May 23 and June 15 will be supplied at the reduced price of 45s. Satisfaction guaranteed.—N. WILKINSON, The Old Rectory Apiary, Farnham, Saxmundham. r.p.69

28TH YEAR.—Finest 3-frame Nuclei, with pure 1921 Italian Queens bred from selected imported mother, 65s., carriage paid; 10s. refunded for box when returned; Fertile Queens, 10s. each, June delivery. Satisfaction guaranteed.—THE THORNE APIARIES, Ninfield, Battle, Sussex. r.p.70

PURE ITALIAN QUEENS, fertile, bred in Devonshire, no blacks within miles, May, 12s.; June to August, 10s.; September, 8s.; Virgins half price; Nuclei, 3-frame 50s., 4-frame 63s., carriage paid. Send cash with order for Queens, or 10s. deposit for Nuclei. Special terms to members of the N.D.B.K.A.—TATTERSALL WILLIAMS, The Apiary, Braunton. r.p.71

STOCKS FOR SALE, strong, healthy Italian Hybrid, in excellent W.B.C. Hives, English standard.—DICKINSON & OWEN, Bee Farmers, 25, Bartletts Buildings, Holborn Circus, E.C.4. 'Phone: Holborn 824. Bees bought and sold. p.72

HIVES and all you require for Bee-keeping. Immediate despatch. Write for list. A few spare Swarms, Holmewood strain, Dutch, Dutch-Italian. Price on application.—L. ANDREWS & CO., Hive Works, Westgate, Peterboro'. 'Phone: Peterboro' 381. r.p.73

1921 PURE FERTILE ITALIAN QUEENS, guaranteed direct from Penna. Regular supplies throughout the season commencing May 7. These genuine Italian Queens need no recommendation. Price, 13s. 6d.; selected, 15s.—GOODARE, New Cross, Wednesfield. r.p.35

EXCHANGE IS NO ROBBERY. — I will exchange one of my W.B.C. Hives, as advertised, for each healthy Swarm or Nucleus during May. Correspondence invited.—COCKLE, 11, Townsend Road, Southall, Middlesex. r.o.132

SWARMS BOOKED NOW, with Queen, 35s., plus carriage and 6s. for case, returnable; 3-frame Nuclei, ditto, 35s.; 10-frame Stocks, in good hives, £5 10s.; carriage extra.—W. WOODS, Normandy, near Guildford. p.34

"WIGHT" DISEASE.—Prevention and removal. Invaluable advice, 5s. 6d. "An eye-opener."—ALF. RYALL, Whiteway Apiary, near Camp, Stroud. r.n.169

PURE Imported Carniolan Alpine Queens. List free.—E. WOODLEY, Thorne, near Doncaster. p.33

FINEST UTILITY STRAIN.—Queens, Stocks, Nuclei. List free.—TICKELL, Westbourne Apiary, Cheltenham. r.o.136

MAY DELIVERY.—From the Enrico Bozzalla Apiaries, Crevacuore, Italy. 3-frame Nuclei, British standard, £3 10s. each, carriage paid, boxes free, 1921 Queens.—S. H. SMITH, 30, Maid's Causeway, Cambridge. o.112

STRICTLY BUSINESS.—A Japanned Sprayer, 6s.; one dozen Flavine Powders, 1s.; "Let the Bees Tell You," 2s. 6d.; all post paid.—S. H SMITH, 30, Maid's Causeway, Cambridge. o.113

GOLDEN PROLIFIC ITALIANS give the greatest pleasure and profit throughout the season—the highest satisfaction early spring.—Particulars, E. COOMBER, Breeder, 64, Ronald Park Avenue, Westcliff-on-Sea p 45

4-FRAME NUCLEI, covered bees and brood, Italian Hybrid, absolutely no disease, £2 15s.; Swarms, £2; travelling box, returnable, 10s.—HOGAN, Boxford, Suffolk. r.o.71

DAY-OLD ITALIAN QUEENS, an economical means of invigorating your stock. Reduction for quantities.—E. COOMBER, Westcliff. o.66

TESTED QUEENS from June 15. One for 10s., three for 28s. 6d., five for 47s. Pay half now and save 5 per cent.—BEE SUPPLIES & PRODUCTS ASSOCIATION, LTD., 39, Wandle Road, S.W.17. r.o.85

ITALIAN HYBRIDS.—Nuclei, 3-6 frames, from £2 2s., carriage paid; delivery early June; reliable strain; no disease.—HOSEGOOD, 26, Purley Park Road, Purley, Surrey. r.o.25

THE MOTHER QUEEN IS THE LIFE CENTRE OF THE COLONY.—No Apiarist worthy of the name would consider a commanding price too high for a first-class *Queen*.—ADMINSON, LTD., Benson, Oxon. r.o.33

"THE APIS CLUB."—If you have a live interest in bee culture as a science and a craft, you should join THE APIS CLUB. Membership fee, 10s. 6d. per annum, and includes the free delivery of "THE BEE WORLD" as published.—For advantages of membership write to the Secretary, THE APIS CLUB, Benson, Oxon. r.o.37

8S. ITALIAN 1921 fertiles, May; 8s. 6d., April.—ATKINSON, Fakenham. r.n.110

"RESERVE 30 Queens for this season's work Your Italians are 'it.'—S. C. L." Thanks S. C. L., I will.—ATKINSON, Fakenham. r.n.113

QUEENS, QUEENS, QUEENS.—Pure Italian; none better.—ATKINSON, Fakenham. r.n.111

QUEEN strain counts, price too.—Write ATKINSON, Fakenham; secure both. r.n.112

1921 PURE CARNIOLAN QUEENS.—Whether home-bred or imported, our Carniolan Queens are derived from Jan Strgar's famous Alpine strain, for which we have the *Sole Agency* in the United Kingdom. Price (from June onwards), 17s. 6d. per Queen; safe delivery guaranteed. A decidedly modest outlay on an investment which more than repays.—ADMINSON, LTD., Benson, Oxon. r.n.54

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ITALIAN QUEENS direct from Italy.—Address, ENRICO PENNA, Bologna, Italy. Price List for 1921 on application.

START RIGHT! Keep right! Avoid "Wight"! —ALF. RYALL'S advice tells you how. r.o.144

ALF. RYALL sells Bees. Stamp for prices.

"THE BEE WORLD."—*The "winged" paper that circulates. It is read, re-read, and treasured.* Will it not appeal to you? Specimen copy post free.—Publishers: THE APIS CLUB, Benson, Oxon. r.o.36

UNSURPASSED IN VALUE.—To popularise the new method of scientific bee-keeping, *Adminson's Semi-comb* is sold at almost cost price.—ADMINSON, LTD., Benson, Oxon. n.79

ADMINSON'S SEMI-COMB.—The latest achievement of scientific bee-keeping and modern engineering. In British standard, 16 in. x 10 in., and shallow sizes, the last with drone cells. Try it for the production of extracted heather honey.—ADMINSON, LTD., Benson, Oxon. r.m.119

EXCEPTIONAL OFFER.—*Adminson's Breeder Hive*, fitted with ten standard aluminium semi-combs, costs £4 2s., carriage forward. Worth double this price.—For Adminson's Hives and Appliances write to JAMES LEE & SON, LTD., Uxbridge. r.n.23

ENSURE a good honey crop this year by purchasing our noted 6-frame Italian Stocks. Catalogue free on application.—PEARSON & GALE, Marlborough. r.n.173

DUTCH BEES.

¶ The first large edition of my literary brochure and illustrated catalogue describing these hardiest of all bees is nearly exhausted. It *will* interest you to have a copy if you have already seen one. It is yours for the asking.

¶ Characteristics: Dutch bees are credited by all impartial critics with splendid prolificness, eminent suitability for comb honey production, and fitness for use with large hives; and, above all, their remarkable resistance to *Acarine disease*, as confirmed by recent research (see Dr. Rennie's Report, pp. 747-751).

¶ Supplies: (1) Skep colonies, with full combs, strong and guaranteed healthy. Each £4, carriage paid. *Immediate delivery.*

NOTE.—These are *not* small driven lots with half depth combs.

(2) Ten-comb stock in "Cumbernauld" hive, with excluder and crate of sections, £6 10s., carriage *forward*. *Immediate delivery.*

¶ References: "Those who fancy this variety cannot get them from a better source than 'Orme Lodge Apiary,' Mr. Whyte is Agent for the best known and largest bee-keeper in Holland, Hans Matthes."—The B.B.J., March 10, 1921.

"The championship of the Dutch bee, for which Mr. Whyte is known, receives an illuminating tribute in his catalogue, which is a literary and practical treatise on this hardy race of bees."—The *Bee World*, April, 1921.

R. WHYTE, Orme Lodge Apiary, Cumbernauld, Dumbartonshire.

Fertile Italian Queens. May 10/6. Satisfaction guaranteed. PEARSON & GALE, Marlborough.

Dutch Bees in Skeps for Re-stocking.

READY FOR IMMEDIATE DELIVERY.

THESE bees on account of their prolificness are eminently suited for the purpose of making nuclei to which Italian Queens can be introduced. It is possible to make up to 12 nuclei from one Dutch Stock during one season. Have a limited number of Dutch Skep Stocks, imported 1921, for disposal at the low price of £3 10s. each, carriage paid. Cash with orders, which will be filled in rotation.

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"REINFORCED" FRAMES. Frames ready for the bees and with strengthening wires sunk right into the foundation. Standard 1/4, Shallow 1/3 each, postage 1/= per doz.
E. J. BURTT, Manufacturer, GLOUCESTER
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GORDON ROWE, 28a, Moy Road, Cardiff.
HONEY PARCHMENTS, stamped pure honey, 2 lbs., 14s.; 1 lb., 9s. 6d.; ½ lb., 7s. per 100; 500 lots carriage paid.—THE SUN PACKING CO., 28a, Moy Road, Cardiff.

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254, OXFORD ROAD, MANCHESTER.

THE
British Bee-Keepers' Association.

Insure *now* against loss by damage done through bee stings. All particulars from

W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

Seasonable Hints.

What are usually known as "drawn-out" combs, whether for the brood chamber or the supers, are always a valuable asset to the bee-keeper. One correspondent, realising this, asks for a few hints on their production. The next few weeks are the most favourable time to secure them. It is quite possible in a favourable season to get the bees to build brood combs at the latter end of April, but it needs great discretion on the part of the bee-keeper if it is attempted so early. Most bee-keepers take out one or a couple of combs when packing for winter; these are given back to the bees the following spring as the colony increases and needs room for expansion. Instead of returning the old combs new frames fitted with foundation should be given, but this should only be done when honey is coming in from the fruit bloom, or there is a good supply from some other source. Combs may, of course, be obtained by feeding the bees liberally with sugar syrup, but with sugar at its present price this will not pay.

At the present time honey is coming in fairly fast, and it may be that brood combs are being filled with honey to the exclusion of brood. If so, it will be an advantage to remove them. If the honey is sealed over, so much the better; they may be kept until after the honey flow, and may save a considerable amount of feeding.

Another method is to use standard instead of shallow combs for supering. The disadvantages are that so large a space given above the brood nest will take away from it too much warmth, obliging the bees to stay below in order to keep the brood warm, and they are therefore some time before they "take to" the super. The large combs are also more likely to collapse in the extractor, great care having to be exercised even to prevent bulging, and it is quite easy to not only extract the honey from the comb, but the comb from the frame. These disadvantages are more marked when frames larger than standard are used.

Vigorous colonies headed by prolific queens may be given another set of brood frames fitted with full sheets of worker base foundation. These should be placed *under* the full brood chamber, thus ensuring the brood being in the warmest part of the hive, as we have pointed out before. This method has other advantages over supering with large frames. It will probably prevent swarming, and the combs are built before the main honey flow comes on. When it does come a very strong force of bees is secured to work in the supers. No queen excluder is used between the two sets of combs, but, if preferred, the Demaree method as described on page 158 of THE BRITISH BEE JOURNAL for April 7 may be followed.

Those who adopt the plan of requeening given in our "Notice to Correspondents" column will secure three or four built-out combs from each colony treated when nucleus and stock are united.

The "brood hatching chamber" designed by Dr. Abushâdy will be found useful for securing built-out combs before the main honey flow comes on.

Shallow combs will as a rule be built out in the supers. They may, however, be used as an extra breeding chamber when for any reason it is not expedient to use a second set of standard size. If that is done, of course, worker base foundation must be used. The plan of putting supers fitted with new frames of foundation *under* the brood chamber until the bees commence the work of comb building, then transferring the super to the top with a queen excluder under and putting another new set in its place underneath, may be followed.

It is optional whether a queen excluder is used between the brood chamber and the super under it, but it should be used if the frames are fitted with drone base foundation.

A Dorset Yarn.

"Why do bees leave a hive and swarm again after being run in the previous evening?"

This was the query brought to me on Saturday, May 14. My questioner had sold a swarm, let them run in the entrance, took his payment, and considered the transaction finished. All this took place on the Friday. The purchaser came up to the vendor on Saturday, saying: "Bees have all swarmed out again." He came and asked me why. I could only tell him that perhaps rats and mice had been in the hive. Bees certainly have an objection to the smell of rats. I have since thought that the queen may have been a young one; the stock had been showing a tendency to swarm for twenty days. This was my nearest neighbour, who had been waiting for swarms for his new hives, and when one did come he sold it for a high price. He said he should have some

more for his own hives; he never liked to refuse good prices.

I remember having a late swarm one year, and shaking it three times into a box, and each hot day they came out again. I tried them the fourth day in another box, then they stayed; the other box must have had an objectionable smell, as the bees would not stay in it.

It is astonishing how soon a strong lot in a butter box have started on combs when placed over the top of them. On Sunday afternoon, May 8, a lot from the valleys near Lulworth Cove, was hanging outside the entrance, and all round the sack that covered the box from the sun. It was only brought home from Wareham market on the 12th. The combs were drawn out (a late swarm was on them in 1920, and had been robbed out); the butter box covered nine of the bars, the other one had a piece of Hessian bag laid over, the box keeping down one edge. On Monday afternoon some of the old pieces of pollen were laying at the entrance, proving that the workers had taken possession of the combs at once. This is a very strong lot.

On May 14 the biggest half of workers were carrying pollen of all shades of colour, some crimson, brown, yellow and white. The latter, I assume, is holly, as that bloom is very plentiful just now. All this last week the board at entrance has been covered with pollen and pieces of comb, but bees have not swarmed. All seemed to be working their hardest, with no sign of swarming.

Another lot of blacks from the same area, in a margarine box, was placed over bars on Wednesday morning, and it was cleared out the same day by Italians from adjacent hives. I did not go down till afternoon to this lot; the mischief was mostly over then. The whole of bees from five stocks seemed to be crowding in and out, stealing the stores of these blacks; even after the entrance was closed to allow one bee at a time to creep out, they still covered the whole hive, trying to get in and steal. I took off the box and carried it away, but the mischief was complete, the blacks were conquered, but these Italian robbers have not attempted to raid the other strong lot of blacks, they consider "Discretion the better part of valour." This hive had been placed in position ready for combs of brood from a strong lot. Bees had been in and out each day previously, and they may have been looking for a new home when they chose to swarm; any way the whole lot of Italians took part in the pillage. I suppose the fault was mine—should have placed them on paper; they had not the chance to defend their stores, as the whole of the combs were exposed from below. All my life I have learned lessons from failures, and am still learning them.

Our bees now are getting stores from the lines of raspberries; they seem to have left turnips, apples and everything for them. Logans also have them, but these are the same family; these last a long while in bloom, and bees do well at this time, but there are fields of clover (crimson), plenty of charlock, no lack of stores for them now.

Visitors from Cardiff, from Scotland, and from Hampstead Garden Suburb have been south to the farm to see the bees. Next month the Bournemouth Association are coming in the afternoon. Captain Desmond, of Stroud, writes of a party of fifty coming. I hope they will not be disappointed, but it is a real pleasure to meet with bee enthusiasts, and they must have the bee fever pretty badly to come so far in such great numbers.—J. J. KETTLE.

Jottings from Huntingdonshire

"One cannot live on fresh air," is a remark often heard in one's lifetime. It is true. There are, however, times when one can almost do this, and such a time is the present. When the air is filled with the perfume from bean and clover, subtly intermixed with the scent of lilacs and laburnums, with chestnut and May blossom fragrance borne alongside, eating seems a descent to animalism. Feasts of the table are coarse and vulgar compared with the feasts Nature provides for one's eyes in the month of May. I am writing this in the open, and the joy is supreme, on the banks of a fish pond—one of a series made some time between the day when King Alfred burnt his cakes and King John signed Magna Charta. The day, or week, or month, or year knoweth no man. Presumably the ponds were here in the days when Robin Hood and his kindred spirits roamed the forest glades. To-day the forest and the mansion are not, but the fish ponds remain. Hawthorn bushes growing upon their banks, covered with milk-white bloom, are gaily reflected in the water, and here birds and beasts and bees come to drink. A fallen tree trunk, soaked through and through, and overgrown with moss and algae, provides the bees with an ideal resting-place while they slake their thirst. A moor-hen has her nest well built upon some rushes near the middle of the pond; she is not quite sure whether I mean good or ill. A goldfinch is feeding her young, undaunted by my presence, although I am scolded each time the parent comes to drop a morsel in her nestlings' gaping mouths. Orange-tipped butterflies flit past, and painted ladies and red admirals, tortoiseshell and brimstone, with cabbage whites, follow with varying degrees of haste. In the spinney opposite—an aviarian equivalent for Queen's Hall—a concert is in progress. The thrush and the blackbird, the nightingale and the wren, the chaffinch and the chit-chat can all be heard. The liquid notes of the nightingale are easily distinguished from the rest—but what an inferior song to that of the thrush! If the thrush did as the nightingale—sang by night as well as by day! But paradise is not yet. Behind me the pigeons coo, and withal the cuckoo tells the world that he is about. To my right an avenue of oaks, half a mile long, shows where the drive to the mansion was when King Charles came to visit this place. Parallel to it runs an avenue of chestnuts, now a billowing mass of white and pink. What

a time for the bees! They rush out pell-mell, some to the beans, others to clover, many to the sycamore and chestnuts, and not a few to the charlock, and come home laden with pollen, cream and saffron, yellow and red, and their sacs heavy with nectar. To and fro in a continuous stream, from morn to night, they visit and revisit the thousand thousand blossoms that charm one's scent and sight. But why do they not swarm? A stock of Dutch bees is boiling over, and yet never a swarm. A gentle reminder came by post yesterday: "Shall I send a swarm box, or are you afraid to risk bees on the railway in these times." I had a swarm the last Saturday in March; none since. Ye men of learning, who have said many naughty things about Dutch bees, tell me how to make them swarm. I have told you how to prevent them swarming, now oblige me. Must I follow the advice of old Besty, who bids me "be sure and tell the bees all what's a going on"? Shall I tell them of the labour troubles? Shall I inform them that Farmer B. has lost a cow? Oh, the times I have rushed forth, hearing what sounded like the initial strains of a swarm, only to find a few bumble bees busy on the broad bean flowers! Nibbled a passage way through the quilts have these Dutch, and began comb building in the roof. I go through the hive and find no signs of queen cells. This is what comes of keeping them on the non-swarming principle—when you want them to swarm they have forgotten how to do it. Well, I must give them some drone comb—that'll do it. Unless, forsooth, her majesty refuses to deposit drone eggs. I could, of course, make an artificial swarm, but should I be sure that the young bees left would raise a queen? Well, there it is. Bees to the right of me, bees to the left of me, flying in numbers; o'er mead and wood and dell, bravely they work and well. Back to the hive they go, filling each vacant cell—bees by the hundred. But I must not parody Tennyson or he will haunt me. Yet I would I were a Wordsworth, to do justice to the sylvan beauty of this spot. But I must leave it for a while. I'm sure that moorhen will be glad to see me go. There, now! What a shock! A few bees had just settled to take a drink, and twit-twit said a swallow as she skimmed the surface of the water and gobbled one of the bees up. Naughty swallows! We love to see you come, but please do not take too many of our bees. Perhaps it was a very old bee you took. I hope so at any rate. Keep out of the way when my swarm issues. It will be a bumper when it does come, and some of the bees might retaliate. The shadows are falling aslant now, the breeze is cooling, and yonder hills are imprisoned with haze of transparent blue. Among the meadows, carpeted with buttercups and cowslips, the oxen lazily graze their fill; starlings upon their backs seek flies to feed their young; the zephyrs rustling through the new-born leaves tell of the passing of another day. The giver of light and heat sinks, only to cheer our brethren "'neath the western sky" for only a few short hours, when he'll return again to charm us in this glorious time of May.

Steeple Gidding. E. F. HEMMING.

Bee Pasture.

Mr. J. P. Cheyne asks about planting bee pasture, and I am prompted to state that at different times the question has been brought up in this part of the footstool

The writer has devoted some study to the matter, and I think I have found that there is nothing which may be planted, in sufficient area, to affect the honey crop. As we all know, bees range so far as one-and-a-half miles from the hive, in season of good flow, and, further, if the yield is light, which means they cover an area of, say, ten square miles, or 6,400 square acres. The one-fourth acre Mr. Cheyne has to devote to bee pasture would not be a flyspeck on the map.

In this country we have the biennial sweet clover, which thrives in waste places, and is a good honey producer, though not as desirable as the white; but there is another sweet clover, the Hubam, discovered by Prof. Hughes, of the Ames Experimental Station of this State. It is an annual, grows to be eight feet high, and is a fine honey plant. It should do well in England. As the seed is worth close to $10 a pound at the present time, it would be a profitable crop on a quarter acre, besides the honey produced.

Lucerne, or alfalfa, as we call it here, is a fine honey producer in the semi-arid sections of the United States, but produces no nectar in other parts. The honey is a light amber in colour, and of good flavour.

I might mention that the annual sweet clover may be planted with wheat or oats After the small grain is cut the clover grows up and a good crop of hay or of seed may be secured.—A. F. BONNEY, Buck Grove, Iowa, U.S.A.

Somerset Notes.

OVER TWO THOUSAND BEES LOST IN A SHOWER.

Why do bees so often in the spring decline in numbers? "Spring dwindling" is a term often used to cover our ignorance. I have often blamed the weather; sometimes thousands appeared to get lost on a stormy day. Sometimes, on a fine, sunny morning in April, they would disappear in the snow on the ground.

Last week we made an attempt to estimate the losses in a shower. Most of the bees disappeared when out foraging, so a reliable estimate is difficult. It was a cold April shower with hail, coming on suddenly on a sunny afternoon when the bees were working with all the energy they possessed. After the shower I went round the hives. Two of them had rather small entrances and rather small alighting boards, quite large enough for ordinary occasions but not for a panic; there had evidently been a crush to get in, judging from the number of pollen balls on the alighting boards, between 30 and 40 in each case. Suddenly I was horrified for a moment on seeing hundreds of bees on the ground in a stupefied condition. Was the "I.O.W." disease here again? The suspicion only lasted a moment, as most of the bees had pollen on their legs. In the hurry to get back, perhaps feeling numb with cold, they had struggled home, missed the alighting board, and lay

down to die, still carrying the loads intended for the home just above them; truly a saddening sight. Round one hive I picked up 235 bees, most of them apparently dead; a few were able to kick, not one was able to walk. Placing them in a box by the fireside, in a few minutes there was a pleasant hum, and on being let out near the hive they flew in as if nothing serious had happened. As the night was frosty, all these bees would have died from exposure. How many never came back from that shower? Probably ten times as many as missed the alighting board. The observation windows were carefully watched and there was evidence of spring dwindling. The bees were not covering the combs nearly so well. It took four days to make up the numbers; the bees were hatching out about 1,000 a day, indicating between two and three thousand lost on the shower day.

The most reliable evidence of the loss, however, was furnished by the weighing machine, the hive having been carefully weighed in the morning and again at night. The loss in weight was 18 ozs. in eight hours; 10 ozs. would be ample to allow for the normal loss in weight, leaving half a pound of bees, or 2,500, that never came home. How to prevent these losses in the future is the problem we are now trying to solve.—EDWIN I. WALKER, Street, Somerset.

Cheshire's Bees and Bee-Keeping.

A new edition of both volumes of the above work are now available—Vol I. (Scientific), 12s. 6d., postage 9d. Vol II. (Practical), 7s., postage 1s. The latter has been brought up to date and enlarged by an appendix from the pen of Mr. J. B. Lamb.

Acari and the Need for Legislation.

(*Continued from page* 212.)

Fig. 3. The three acari isolated occupied the space now vacant at the open end of the trachea and were ejected by pressure before the specimen was prepared for being photographed.

Fig. 4 may be of interest. More, it may be of importance. It is a photomicrograph of a large (male) acarus, *Alemobius Farinæ De Geer*. Micheal gives a full description of this acarus. It is found living on hops, prunes, jellies, cheese, etc. It is found in large numbers in wheat, and even on tobacco! It evidently approves of the good things of life! But it is also found in *dead bees*. I find that it eats out the thorax and abdomen of dead bees. The specimen represented in the photograph was removed from the inside of the thorax of a bee which had been dead for at least six months. All the bees of the lot which I was examining had been mostly eaten out by these acari. They are very agile, and can wander we know not where. Does it not strike one that these acari may be a source of great danger in the way of spreading disease? No one knows if the eggs of *T. woodi* in a dead bee are themselves really dead. Hives tenanted by dead bees and living acari, swarming in their millions, are an abomination which never ought to be allowed to exist. *There ought to be a law to put a stop to it.* And yet there are bee-keepers who are opposed to legislation! It seems incredible, but it is a fact.

If every stock, and everything connected with it, where the bees have died out, whether by disease or starvation, were destroyed *by*

FIG. 3.—ACARI IN TRACHEA, AND THREE ISOLATED.

fire, Nosema disease, Acarine disease, Dysentery, and every other disease would soon be a thing of the past. We should then spend our time reaping the harvest of honey, and not destroying stocks.

If space will permit, a simple experiment may be of interest: A stock, where every bee examined microscopically showed acari *T. woodi* in abundance, was given three puffs of sulphur smoke every day. Gradually the crawling diminished. Any crawlers were examined. The acari were observed to be decreasing in numbers. To-day there are no crawlers, and the bees are working well, and there is brood up to the last (tenth) comb on either side. The bees are now putting honey in the super. This method may not effect a permanent cure, but it appears to be making a marked improvement on the health of the stock.

G. H. Hewison, M.A.

[The four photomicrographs illustrating this article are copyright, and the property of the writer, from whom lantern slides may be obtained. The magnifications are:—Fig. 1 x 78 diameters. Fig 2 x 262½ diameters. Fig 3 x 78 diameters. Fig 4 x 54 diameters.—Eds.]

Bees in the Grampians.

It may interest your readers to know how bees fare in the centre of the Grampian Mountains.

My apiary is about 60 miles inland, and situated on a mountain slope, slightly over 1,200 ft. above sea level. There are eight or ten bee-keepers in our village. Some have only one hive, others two or three. I have six stocks (five in bar-frame hives, one in straw). Our winter is long and our honey season short; we have scarcely any honey flow until into July, and not much then, as there is very little agricultural land in our glen. A strong stock (twelve frames of comb) may fill one rack before the heather flow in August if the weather is favourable, but very seldom that we get much clover and flower honey; it is almost all pure heather honey, as the heather surrounds our village for miles.

Re heather honey crystallising. I have kept it in the comb for twelve months without any crystalisation, if not exposed to a low temperature, also if drained without any wax and kept under the above conditions, but it must be pure heather honey.

I am sorry to say we had very little surplus honey last season. During the whole honey harvest the bees were kept in their hives, with wind or rain, for two-thirds of the time. None in this district had stores sufficient to winter themselves. 1920 was an early spring, as we get them (so also is 1921). The bees were early carrying in pollen; the stocks were strong for the honey harvest, but some had the swarming fever if they could get a day favourable for coming off. I had one came off three times; they were no sooner clustered than rain threatened, and they returned to the hive. At last, one day they got a favourable hour, when my wife, who is a bee lover, got a skep and cloth over them. While she was in this act, a swarm from the straw skep joined the cluster. I hived them all together and allowed the two queens to fight their own battle. I keep the stock in the straw skep for rearing queens, as in an ordinary season it will yield two or three casts, which I amalgamate with another stock after killing the old queen, which I find does very well in our upland glen, where we may be two or more seasons without any swarms

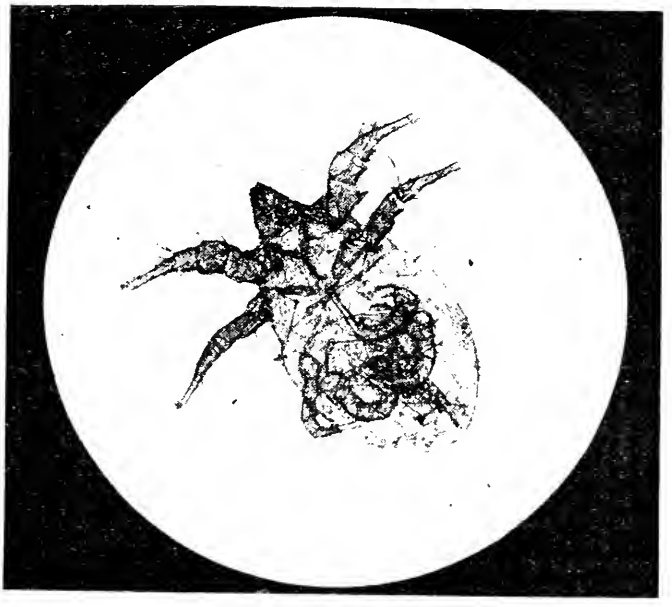

Fig. 4.—Aleurobius farinae.

owing to cold, backward springs; hence our queens get exhausted or die. I have only bought one queen during my many years of bee-keeping.

A good honey season is always a delight to a bee-keeper, and is also a profit, but mine are kept for the love of the bees, irrespective of what they yield. My six stocks have wintered well; they are strong and lively, with young bees taking their share of carrying in pollen, which is always scarce in our upland glen in early spring. This spring we have had bright sunshine all day, which makes the bees busy, but frost every night, which has retarded the wild flowers and ruined the berry blossom.—A. G. C., May 2. 1921.

Scottish Bee-Keepers' Association.

The annual meeting of the Scottish Bee-keepers' Association was held in Perth on Saturday, April 30. In spite of railway difficulties, a very representative assembly was present, comprising members from Inverness-shire in the north, Dumfries-shire in the south, Ayrshire in the west, and Aberdeenshire in the north-east. The chair was taken at first by Mr. J. H. Langlands (Dundee), the retiring President of the Association, and later by Mr. J. R. Dickson (Alloway), President for the current year.

The proceedings commenced with an interesting ceremony, viz., the presentation to Dr. Rennie (Aberdeen) and Mr. A. H. E. Wood (Glassel)—in recognition of their signal services to the Association, and to the whole bee-keeping community, by the discovery of Tarsonemus Woodi, the supposed cause of Isle of Wight disease—of the first Diplomas of Honorary Expert Bee-master ever bestowed by the Association. These handsome Diplomas are printed in gold. Dr. Rennie, in returning thanks for this mark of honour on behalf of himself and Mr. Wood, stated that before his discovery was announced he had had no idea of the large number of people concerned, and the vast number of letters of congratulation and inquiry he had received had been a great surprise to him. He expressed high appreciation of the fact that the Scottish Bee-keepers' Association had risen to such unanimous recognition of the importance of scientific research, and a hope that, with the help of the Association, he and his fellow scientists would ere long be able to control the disease. Scientists could do much by their investigations and remedies, but the sympathetic co-operation of such a body as the Scottish Bee-keepers' Association was absolutely necessary if public opinion was to be educated, and effective measures taken for the prevention and suppression of disease.

The Rev. John Beveridge, Hon. Sec., then referred in a few words to the great services rendered to the Association in the past by Mr. G. W. Avery, East of Scotland College of Agriculture, the first Honorary Secretary, and by Mr. Henry Crombie, Dunkeld, who had filled the same position with great devotion, and piloted the Association through very difficult and trying times, during the years 1915 to 1920. In recognition of these services, the Diploma of Honorary Honey Judge was awarded to Mr. Avery, while a gold-mounted fountain pen was presented to Mr. Crombie, bearing the inscription: "Henry Crombie, M.A., Hon. Sec., S.B.A., 1915-1920." Mr. Crombie, in reply, stated that he regarded his work in connection with the S.B.A. as some of the best work of his life, and spoke warmly of the friendships formed in the course of that secretaryship with some then present, and others absent or dead.

The presentation of a framed and illuminated address was next made to Mr. J. W. Moir, Hon. Treasurer and Librarian, by Mr. John Anderson, B.Sc., Aberdeen, who spoke in warmly appreciative terms of Mr. Moir's invaluable and most unselfish labours in connection with the Association, and of the grateful affection and esteem with which he was regarded. Mr. Moir replied that all he had been able to do seemed to him very little in view of his love for the Association and what it stood for, and this acknowledgment of his work came as a complete surprise, and one which he appreciated very deeply.

A number of ordinary Expert and Bee-master Certificates were then presented, one of the successful candidates for the former being Mr. Henry Marrs, Lochmaben, whom the Hon. Sec. introduced to the Council as one of the first members of the first Scottish Association, of whom very few were now left, who had maintained his connection for 30 years.

The ordinary business of the Council was then opened, and the various reports showed that the Association is in an active and flourishing condition. Every known Bee-keepers' Society in the country has now become federated, and there is not a single county in which the S.B.A. has not some representatives, either in the form of local branches or in the persons of associated members.

Throughout the country there has been a distinct revival of intelligent interest in apiculture, and the number of applications for lantern and other lectures and demonstrations has been far greater than in any previous year. Twenty-eight candidates obtained the Expert Certificate, 83 the Bee-master, and 14 the Honey Judge. The library now consists of upwards of 700 volumes, and has been taken advantage of more than in any previous year. The Register of Bee-keepers and Hives is making steady progress, and up to the end of March showed a total of 8,415 bee-keepers in Scotland, with 27,650 hives. A Committee on Bee-keeping for Women has been set up, with Lady Salvesen as Convener and Mrs. J. E. P. Robertson, Edinburgh, as Vice-Convener, and it is anticipated that much useful work will be accomplished in promoting bee-keeping amongst women, and giving assistance and advice.

An interesting and instructive address on Acarine disease was given before the close of the meeting by Dr. Rennie, and, after his

address, many practical questions were put by the members, and answered in the most lucid and helpful way, with the result that many bee-keepers who have suffered great loss and discouragement from the ravages of Isle of Wight disease will go forward with renewed hope and enthusiasm to the new season, begun under such happy auspices.

LIST OF OFFICE-BEARERS FOR 1921.

Hon. President.—His Grace the Duke of Atholl.

President.—Mr. John R. Dickson, Alloway, Ayr.

Past President.—Mr. J. H. Langlands, C.E., Dundee.

Vice-President.—Mr. Henry Marrs, Lochmaben.

Hon. Secretary. — Rev. John Beveridge, M.B.E., Gartmore.

Hon. Treasurer. — Mr. J. W. Moir, F.R.S.G.S., Edinburgh.

Convener of Organisation Committee.—Rev. T. F. Best, Dundee.

Convener of Committee on Bee-keeping for Women. — Lady Salvesen, Deanpark House, Edinburgh.

Registrar.—Miss E. Beveridge, M.A., Gartmore.

The Cheshire Bee-Keepers' Association.

ANNUAL MEETING.

The twenty-second annual general meeting of this Society was held at the Holborn Café, Chester, on Saturday, April 30.

The Rev. Canon T. J. Evans, M.A., presided before a numerous and representative gathering. His Grace the Duke of Westminster, G.C.V.O., was re-elected president; the vice-presidents were also re-elected, with the addition of Rev. H. E. Boultbee, of Bebington. The Rev. Canon T. J. Evans was again appointed chairman, and Mr. E. P Hinde vice-chairman.

In thanking the members, Canon Evans reminded them that this was his twenty-second year of office, and wished them a successful season.

The following appointments were also made: — Committee: Messrs. Blakeman, Tobler, Burgess, Wilde, Alun Jones, Langford, Comber, Thomas, Acton, Clark, Cadman, Stonely Fenn, Jackson, Bradburn, Royds. Hon. secretary: Mr. E. W. Franklin, Mouldsworth, Chester. Hon. auditor: Mr. J. Tonge, 22, Booth Street, Manchester. Delegates to the British Bee-keepers' Association: Major G. H. Garratt and Mr. A. J. Blakeman.

In his report, the Secretary stated that the membership had now increased to about 300, and that the year's working showed a balance in hand of £8.

The work of the County Association experts gave the greatest satisfaction, and they received the heartiest thanks. Every member had been visited at least once during the active season.

The Association Show will be held at Chester in connection with the Cheshire Agricultural Society's Show, and special prizes will be given at the Bramhall and Altrincham Shows. The Cheshire County Council are proceeding with the re-stocking scheme, and early applications for nuclei at £2 5s. each should be made to the Secretary.

A pleasant feature was the presentation of Certificates to the successful candidates in the British Bee-keepers' Association's Examinations for Experts, and also the handing over of the spoons won at the Chester, Altrincham and Bramhall Shows in 1920.

Through the kindness of Mr. A. M. Sturges, of Hartford, who brought his microscopes, together with slides of his own preparation, the meeting had an opportunity of seeing the *Tarsonemus woodi* (the recently discovered parasitic cause of "Isle of Wight" disease).

Application for membership (5s., cottagers 2s. 6d.) should be made to the Secretary, Mr. E. W. Franklin, Moldsworth, near Chester.—(*Communicated.*)

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Early Swarms.

[10451] The following may be of interest to many of your readers, but as we have been having such exceptional spring weather it is probable my case is not an isolated one.

At three o'clock on Saturday, April 30, a gardener working in a neighbour's garden came to my house and told me that he saw a large swarm of bees issue from one of my hives, and they had just settled quietly on a pear tree in the garden next to the one where he was working. He said, I am an old bee-keeper, and am certain the cluster would fill a gallon measure. They were fortunately in a position easy of access. I took them when those flying had entered the skep, and carried them home and hived them on eight frames, seven of wired foundation, and one of fully drawn out comb. They are now clustered thickly on five frames.

I put a super of eight drawn-out shallow combs on this hive a week ago. I then examined the combs, and found one queen cell partly drawn out, which I cut out, but I probably overlooked a ripe cell that may have been hidden by the clustering bees.

I have since been through the hive, and found each of the ten combs covered with bees, and the combs quite half filled with brood and eggs, and the eight shallow combs are also covered by bees hard at work.—ELDERSLIE ROAD, ELTHAM, KENT.

May 2, 1921.

Trade Catalogues Received.

S. J. Baldwin, Bromley, Kent.—This old-established firm is making progress, and several new appliances are listed, including the Harvester Hive, a very useful combination seat tool box and frame holder, a new metal end, and several others. Mr. E. R. Seadon, the manager, is concentrating on standardisation, and lists only three hives, the W.B.C. and the "Bromley Kent" hives being square, and their parts interchangeable.

S. A. Bradbury, 29, North Street, Taunton.—This is one of the best arranged catalogues we have received, and, judging from it Mr. Bradbury's claim that he holds "the largest and most complete stock of bee appliances in Somerset," would appear to be justified. A list of parts of hives which may be purchased separately is given, and an alphabetical list of requisites. Two pages are devoted to hints and instruction to beginners, which are good, and touch on several matters not usually mentioned, but we fail to see the necessity of giving a swarm of bees a puff of smoke before shaking out of the skep on to the alighting board. Mr. Bradbury also supplies seeds and bulbs, including sweet clover.

J. E. Pinder, Market Place, Salisbury.—A small but comprehensive list of bee-keeping requisites. Mr. Pinder has arranged a special room at his business premises, where the latest appliances are on show, and beginners can, by special appointment, obtain instruction in building up frames and other appliances.

A. J. Steel, Spring Gardens, West Ashling, Chichester.—This list of 20 pages also caters for all a bee-keeper needs. Some of the illustrations might have been better, especially those of the hives, which do not do them justice. Mr. Steel has several new pattern hives under construction, and is open to construct hives and appliances to customers' specifications.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

Miss R. R. (Essex). *Name of Plants.*—The plants were so crushed in the post it was difficult to separate them. We think they were as follows: The large one, *Trifolium Procumbens* (Hop Clover); the medium one, *T. minus;* the small one, *T. filiforne.* Bees work all three, and we have known them collect a fair amount of surplus from the larger varieties. Sweet clover is a different plant altogether.

Correct Way of Placing Section Racks.—They are usually made to fit with the sections parallel with the frames. It is better to place them this way as the girders that carry the sections are then at right angles to the frames, and do not cause so much obstruction as they are likely to do if placed parallel with the frames and the sections at right angles. It is immaterial which way the frames in upper boxes are placed, but they are generally all parallel with those in the first brood chamber.

As a young queen had evidently come out of the cell with the cap off, your plan of taking away the old queen and returning the swarm will not spoil your chances of surplus; it will be more likely to increase it. You do not say if you cut out all the other queen cells. This should be done, or you may possibly have another swarm when another young queen is due to leave her cell. Give plenty of super room.

Carniolans need plenty of breeding room. Mr. Wilkes' method is suitable for them.

W. W. (London, N.13).—*Prevention of Swarming.*—We do not think your cage of queen excluder would answer. A Brice swarm catcher would be better. Any contrivance that prevents the queen leaving the hive will also keep the drones in, and it will be necessary to liberate them, or utilise the swarming appliance as a drone trap and destroy them. Dealing with the imprisoned drones is always a difficulty in using a swarm catcher.

D. B. (Pembs).—*Honey Dealers' Profits.*—(1) The profit allowed the retailer will vary in different districts and according to circumstances. We should say 25 to 30 per cent. would be about right. (2) We do not think parchment pots are *ideal* for honey. That description is more fitly applied to glass jars. Parchment has good qualities in that it is both light in weight and cheaper than glass, and is not so fragile. It's disadvantage is that the contents cannot be seen, and this gives a prospective buyer the impression that the quality is inferior. (3) About 16s. per doz. (4) Sorry we cannot say with any certainty; prices vary so much in different localities. An average will probably be about 1s. 9d to 2s. each for 1lb. parchment pots, and 2s. to 2s. 6d. for 1lb. glass jars, according to the quality of the honey.

W. H. W. (Southgate).—*Prevention of Swarming.*—The method of placing a rack of sections under the brood box is not used so much now as it was a few years ago, when "non-swarming" hives were the vogue. If carried out properly, the rack will not be left under the brood chamber long enough for the bees to commence building comb in the space between them, but it should be possible to reduce the space to less than the ⅜ in. you have got. We do not find any advantage from the ventilation hole cut in the floor-board, and never mutilate our hive floor-boards in that manner.

Rearing a Queen.—You should have no difficulty in doing this. Make a nucleus of three combs from the stock, and place in a nucleus hive. A full-sized hive may be used, the three combs being closed up by the division board, or a rough temporary nucleus hive may be made if you are at all handy with tools. The nucleus should be made any time when queen cells are formed and the centre comb should contain brood and one queen cell, the other two being stored with food. Stand the nucleus about a foot to one side and a little to the front of the stock. The young queen will mate from the nucleus, and after the last super is removed from the parent stock the old queen may be killed, and 12 hours later the nucleus and young queen united to it; or you can follow the method given on page 130 of the Guide Book. The colony should be requeened this year if the queen is a year old.

F. B. (Hants). *Two Races of Bees in One Hive.*—The only explanation we can offer is that *all* the workers are hybrids. You do not say what variety the queen is. Possibly she is an Italian mated by a brown, or a Carniolan drone, some of her progeny having her characteristics and others those of the drone.

F. J. L. (Hants). *Wingless Drones.* The drone you sent was crushed flat in the post. The cause of the malformation is probably malnutrition.

E. H. P. (Sussex).—*Dwindling Colony.*—It appears as though the queen is not a good one, or is failing. You could either remove her and unite more bees and a good queen to the colony, or if they are very few kill them off and start again with a swarm.

J. S. G. (South Shields).—The bees were hybrid Italians.

F. T. (Herts).—If the bees were ours we should suffocate what are left and start again with a swarm.

Suspected Disease.

M. M. G. (Ealing), R. W. H. (Stowmarket).—So far as we could see the bees were free from disease.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d. up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 8, at Ramsey.—Huntingdonshire Agricultural Show. Bee and Honey Department in charge of the Hunts Bee-keepers' Association. Open Classes for Honey (comb and extracted) and Wax. Prices, 10s., 5s. and 2s. 6d.—Schedules from Mr. F. Tunnington, Thrapston Road, Brampton, Hunts. **Entries close May 31.**

June 8 and 9, at Rochford.—Essex Agricultural Show. Bee and Honey Department in charge of Essex Bee-keepers' Association. Sixteen Classes, all but one open. Silver and Bronze Medal, and many prizes.—Schedules from G. R. Alder, Hon. Secretary, E.B.K.A., 7, Bulwer Road, Leytonstone, E.11.

June 15 and 16, 1921, at Burton-on-Trent.—Staffordshire Bee-keepers' Association Show in connection with the Staffs. Agricultural Society. Four Silver Medals and five Bronze Medals in Local Classes, one Silver Medal and one Bronze Medal in the Open Classes.—Schedules from W. Griffiths, Solway House, Silkmore, Stafford. **Entries close May 28.**

June 28 to July 2.—Derbyshire Bee-keepers' Association's Show in connection with the "Royal" at Derby. Open Classes, good cash prizes and gold medal offered.—Schedules, apply F. Meakin, 37, Pybus Street, Derby. **Entries close May 30.**

July 20, at Alexandra Recreation Ground, Surbiton.—Surrey B.K.A. Show. Twenty Classes. Two Challenge Trophies, ten Silver, and 15 Bronze Medals. Nine Open Classes.—For Schedules apply Hon. Sec., W. E. Hamlin, 43, Norbury Court Road, Norbury, S.W.16.

July 20 and 21, 1921, at Cardiff.—Cardiff and County Horticultural Society's Show, Sophia Gardens, Cardiff. Bee section under the auspices of the Glamorgan Bee-keepers' Association. Open Classes.—Schedules to be obtained from the Hon. Secretary, Chas. F. Davies, 5, Borstal Avenue, Cardiff.

Saturday, July 30, and Monday, August 1, 1921, at Lichfield.—Lichfield Floral and Horticultural Society's Show. Bee and Honey Section under the auspices of the Staffs Bee-keepers' Association. All classes open.—Schedules may be obtained from the Hon. Secretary, A. H. Perrins, 30, Tamworth Street, Lichfield, Staffs.

HIGHLAND SHOW

HIGHLAND AND AGRICULTURAL SOCIETY.

Stirling Show, July 26-29.

EXHIBITION OF BEE APPLIANCES AND HONEY.

£53 in prizes—Entries close 9th June. Entry forms from JOHN STIRTON, Secretary, 3, George IV. Bridge, Edinburgh.

Special Prepaid Advertisements.

One Penny per Word.

Advertisements must reach us NOT LATER than FIRST POST on MONDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

FOR SALE, Cottage Extractor, Smoker, 50 Shallow Frames fitted foundation, Super Clearer, two Queen Excluders, five Shallow Frame Boxes, at £3, or nearest offer.—Apply, PINCH, 132, Liverpool Road, Watford, Herts. p.78

BEE-KEEPER, 23 years' experience in Australia, used to managing apiaries in home and outyards on a large scale, would like employment.—Apply, Box 26, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. p.79

WANTED, few guaranteed healthy strong Stocks installed in own hives; disused since war.—J. WILLIAMS, Emberton, Newport Pagnell. p.80

READY NOW.—A few 5- or 6-frame Stocks, Italians, with genuine Penna Queens, guaranteed strong and healthy, £3 and £3 10s.; box 5s., returnable.—Box 27, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. p.81

BARGAIN.—Very strong Stocks, 10 frames of brood. Hybrid Italian. 65s.—AYERS, 7, Chesterfield Grove, Dulwich. p.82

FOR SALE, four good Stocks 1920 Swarms, £3 10s. each. BRINKLOW, Hadley Wood. p.83

NATURAL ITALIAN SWARMS, never had disease, 40s.; second, 30s.; package returnable. CADMAN, Codsall Wood. p.84

ITALIAN HYBRIDS, strong, healthy Stocks, immediate despatch, 90s.; with hive, 112s.; box, returnable, 10s.—REV. COOPER, 62, Park Hill, Carshalton. p.85

PRIVATE BOARD-RESIDENCE.—Bee-keeper has vacancies from June until September.—Apply, MOSS, 12, Park Street, Cambridge. p.86

FOR Sale, 8-10 frame Stocks, £3 10s. to £4 5s.—NICHOLL, 254, Friern Road, East Dulwich, S.E.22. p.88

OWING TO REMOVAL.—Twelve fine, healthy Stocks of Italians, highly disease-resisting strain, very prolific, excellent honey gatherers, and all headed with 1920 Queens.—HUDSON, "Sunny Vale," Rockley, Retford, Notts. r.o.139

BEESWAX, pure, for Sale, 5 cwts., packed in ½-cwt. bags, £8 16s. per cwt. net, f.o.r. London.—Apply, Box 25, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. r.p.44

FOR SALE, four splendid W.B.C. Hives (Lee's), drawn-out combs in brood chamber, shallow crates and sections, complete, 30s. each. Extractor and other Accessories cheap; near London.—Box 23, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. p.103

FOR SALE, two very large Swarms, May 10 and 14; Hive and 6 frames, £4 10s.; Swarm only, £2, or nearest offer.—116, Hampton Road, Twickenham, Middlesex. r.p.102

FOR SALE, ten clean, strong Stocks Italians, some with Penna and Bozzalla Queens, imported 1920, others bred from Penna Queens last year, price £5 per stock, f.o.r. Hatfield; boxes, returnable, 10s.—Apply, THOS. G. WALKER, Symonds Hyde, Hatfield, Herts. p.52

WANTED, Honey Extractor in good condition. —COMLEY, 51, Brandon Road, Hall Green, Birmingham. p.89

SIX new W.B.C. Hives for Sale, never been used, 25s. each.—C. GIBSON, Radwinter, S. Walden, Essex. p.54

SPARE NEW HIVES, to super with standard frames (holds 22) or sections, oak legs, painted, 27s. 6d. each.—COX, 116, Addison Road, Kings Heath, Birmingham. r.p.55

GOOD WELSH GOAT, white, full milk, £2 10s. —W. WOODS, Normandy, near Guildford. p.11

TWO exceptionally strong 10-frame Stocks, believed pure Italians, each headed pure Italian Queen imported direct from Piana, Italy, price £5 each, delivered free.—MILLER, Croft, Hampton-in-Arden, Warwickshire. p.61

200 SHALLOW COMBS in perfect condition, 13s. per dozen, carriage paid; boxes returnable.—ARNFIELD, Breinton, Hereford. r.p.76

1921.—FOUR STOCKS OF BEES, headed with Italian Queens direct from Italy this week. £5 5s. each; also three Stocks with 1920 Queens, £4 4s.; Hives, 25s. extra; Nucleus with 1921 Italian Queen, £3 3s.—WIGGINS, The Bungalow, Norton Road, Wemberley. r.p.75

FOR SALE, healthy Italian Hybrid Swarms, May, 35s.; June, 30s.—J. M. WILKIN, Pymoor, Ely. r.p.1

SUSPECTED BEE DISEASE.—Will bee-keepers kindly forward samples for research purposes?—DR. SMITH, 5, West Castle Road, Edinburgh. r.p.6

FOR SALE, 61 lbs. good Welsh Honey. Best offer.—JAMES, Adpar, Newcastle Emlyn. p.9

FOR SALE, several strong Italian 10-frame Stocks. Seen by appointment, or stamp reply. —W. EMERTON, Apiary House, Chalton, Dunstable, Beds. r.p.13

SEVERAL very strong Stocks of Bees for Sale, Blacks and Hybrid; free from disease; prices from £4.—Apply, Box 24, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. p.37

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

WANTED, on loan, or to buy, a Book on Foreign Birds for the Aviary. — W. HERROD-HEMPSALL, W.B.C. Apiary, Old Bedford Road, Luton. r.o.142

BEE-KEEPING.—Correspondence Course. Practical and theoretical study. Stamp.—MISS PALING, Golden Square, Henfield, Sussex. r.m.89

BEES.—Five Colonies on 10 frames each, all healthy and strong Hybrids. Offers for the lot or separately.—LOCK, St. Ivel, Alexandra Road, Watford.

BUSINESS ADVERTISEMENTS.

1½d. per word.

BEES AND QUEENS FOR 1921.—Send for our Catalogue, free on application.—PEARSON & GALE, Marlborough. r.n.174

GREAT REDUCTION of Dutch-Italian Nuclei from £3 3s. to £2 15s.; Italian and Dutch 4-frame Nuclei, £2 15s.; May-June delivery; carriage paid; cash with orders. No better bees; beautifully clean; healthy.—SEALE, Ashley Cottage, Oatlands Drive, Walton-on-Thames, Surrey. o.82

"LAZENBEE" Prolific Italian Queens.—Fertile, 10s.; virgin, 5s.—YOUNG, 100, Elms Apiary, Central Road, Sudbury, Middlesex. p.87

FEW pure Italian Stocks, Nucleus, Queens, 1921, delivered almost immediately. — LUTON APIARY, Queen's Road, Chatham. p.101

IMMEDIATE DELIVERY. — Pure Italian 4-framed Nuclei, full of brood and bees, young healthy Queen, cash 57s., carriage paid; box 7s., returnable.—J. CLARKE, Bee-keeper, Mill Road, Marlpool, Heanor, Derbys. p.90

THOSE BOZZALLA ITALIAN NUCLEI were ready April 18; the French Transport Agency, Messrs. Gourand Frères, were ready to forward them; our customers were waiting; but our British Consul at Turin can't find time to sign the visé pertaining to "Country of Origin! We dislike interfering with the tea and tennis problems of our Dillies and Dallies, but something must be done in this case.—SMITH, Cambridge. p.91

THE FACTORY that had the contract for producing our "mite extinguisher" has had to shut down owing to lack of coal.—SMITH, Cambridge. p.92

SELECTED ITALIAN QUEENS by return, 12s. Write or wire.—BOWEN, Cotswold Apiaries, Cheltenham. p.93

SUPREME VALUE.—Three-frame Nuclei with beautiful Queen, £2 15s.; 6-frame Colonies, £4 4s.—BOWEN, Coronation Road, Cheltenham. p.94

"I.O.W." DISEASE.—Send stamp for remedy circular. — BOWEN, Cheltenham. p.95

BEES SWARMING!—Hives, Skeps, Frames, Foundation. Wire rush orders.—BOWEN, Bees, Cheltenham. p.96

QUEEN REARING.—Complete practical Outfits for 10s. 9d.; Mating Hive Sets, 24s.—BOWEN, Appliance Specialist, Cheltenham. p.97

RE-QUEEN with 1921 pure fertile Italian Queens, direct from the well-known French breeder. Abbé Warré; early June delivery. 9s. each.—Orders to ELLIOTT, "Westfield," Kelvin Road, Ipswich. p.98

PURE DUTCH BEES.—Imported Queen and Stock on 4 frames, £3; 6 frames, £4.—HIPKINS, Owen Street, Tipton, Staffs. p.99

DUTCH BEES IN SKEPS.—Full sized Colonies in skeps, received May 9, for Sale, £3 10s. per skep, carriage paid; expect further consignment on May 25, £3 per skep, carriage paid.—DAVIDSON, Forest Road, Burton-on-Trent. p.100

LT.-COL. C. WEAVER PRICE, O.B.E., M.C., has awarded the Bozzalla Nucleus offered in our advert. of April 14 to A. Wood Smith, West Castle Road, Edinburgh. We wish to thank the judge for his careful consideration of the many suggestions which came in.—SMITH, Cambridge. p.62

ITALIAN NUCLEI, 4 frames, £2 5s., May-June, healthy, carriage paid; cash with orders.—ATKINS, West Grove, Walton-on-Thames. r.p.68

ANY 3-framed Nuclei ordered now for delivery between May 23 and June 15 will be supplied at the reduced price of 45s. Satisfaction guaranteed.—N. WILKINSON, The Old Rectory Apiary, Farnham, Saxmundham. r.p.69

SWARMS BOOKED NOW, with Queen, 35s., plus carriage and 6s. for case, returnable; 3-frame Nuclei, ditto, 35s.; 10-frame Stocks, in good hives, £5 10s.; carriage extra.—W. WOODS, Normandy, near Guildford. p.34

28TH YEAR.—Finest 3-frame Nuclei, with pure 1921 Italian Queens bred from selected imported mother, 65s., carriage paid; 10s. refunded for box when returned; Fertile Queens, 10s. each, June delivery. Satisfaction guaranteed.—THE THORNE APIARIES, Ninfield, Battle, Sussex. r.p.70

PURE ITALIAN QUEENS, fertile, bred in Devonshire, no blacks within miles, May, 12s.; June to August, 10s.; September, 8s.; Virgins half price; Nuclei, 3-frame 50s., 4-frame 63s., carriage paid. Send cash with order for Queens, or 10s. deposit for Nuclei. Special terms to members of the N.D.B.K.A.—TATTERSALL WILLIAMS, The Apiary, Braunton. r.p.71

HIVES and all you require for Bee-keeping. Immediate despatch. Write for list. A few spare Swarms, Holmewood strain, Dutch, Dutch-Italian. Price on application.—L. ANDREWS & CO., Hive Works, Westgate, Peterboro'. 'Phone: Peterboro' 381. r.p.73

1921 PURE FERTILE ITALIAN QUEENS, guaranteed direct from Penna. Regular supplies throughout the season commencing May 7. These genuine Italian Queens need no recommendation. Price, 13s. 6d.; selected, 15s.—GOODARE, New Cross, Wednesfield. r.p.35

"WIGHT" DISEASE.—Prevention and removal. Invaluable advice, 5s. 6d. "An eye-opener."—ALF. RYALL, Whiteway Apiary, near Camp, Stroud r.n.169

PURE Imported Carniolan Alpine Queens. List free.—B. WOODLEY, Thorne, near Doncaster. p.33

FINEST UTILITY STRAIN.—Queens, Stocks, Nuclei. List free.—TICKELL, Westbourne Apiary, Cheltenham. r.o.136

MAY DELIVERY.—From the Enrico Bozzalla Apiaries, Crevacuore, Italy. 3-frame Nuclei, British standard, £3 10s. each, carriage paid, boxes free, 1921 Queens.—S. H. SMITH, 30, Maid's Causeway, Cambridge. o.112

STRICTLY BUSINESS.—A Japanned Sprayer, 6s.; one dozen Flavine Powders, 1s.; "Let the Bees Tell You," 2s. 6d.; all post paid.—S. H SMITH, 30, Maid's Causeway, Cambridge. o.113

4-FRAME NUCLEI, covered bees and brood, Italian Hybrid, absolutely no disease, £2 15s.; Swarms, £2; travelling box, returnable, 10s.—HOGAN, Boxford, Suffolk. r.o.71

TESTED QUEENS from June 15. One for 10s., three for 28s. 6d., five for 47s. Pay half now and save 5 per cent.—BEE SUPPLIES & PRODUCTS ASSOCIATION, LTD., 39, Wandle Road, S.W.17. r.o.85

ITALIAN HYBRIDS.—Nuclei, 3-6 frames, from £2 2s., carriage paid; delivery early June; reliable strain; no disease.—HOSEGOOD, 26, Purley Park Road, Purley, Surrey. r.o.25

THE MOTHER QUEEN IS THE LIFE CENTRE OF THE COLONY.—No Apiarist worthy of the name would consider a commanding price too high for a first-class *Queen*.—ADMINSON, LTD., Benson, Oxon. r.o.33

"THE APIS CLUB."—If you have a live interest in bee culture as a science and a craft, you should join THE APIS CLUB. Membership fee, 10s. 6d. per annum, and includes the free delivery of "THE BEE WORLD" as published.—For advantages of membership write to the Secretary, THE APIS CLUB, Benson, Oxon. r.o.37

8S. ITALIAN 1921 fertiles, May; 8s. 6d., April.—ATKINSON, Fakenham. r.n.110

"RESERVE 30 Queens for this season's work Your Italians are 'it.'—S. C. L." Thanks S. C. L., I will.—ATKINSON, Fakenham. r.n.113

QUEENS, QUEENS, QUEENS.—Pure Italian; none better.—ATKINSON, Fakenham. r.n.111

QUEEN strain counts, price too.—Write ATKINSON, Fakenham; secure both. r.n.112

1921 PURE CARNIOLAN QUEENS.—Whether home-bred or imported, our Carniolan Queens are derived from Jan Strgar's famous Alpine strain, for which we have the *Sole Agency* in the United Kingdom. Price (from June onwards), 17s. 6d. per Queen; safe delivery guaranteed. A decidedly modest outlay on an investment which more than repays.—ADMINSON, LTD., Benson, Oxon. r.n.54

ITALIAN QUEENS, young, fertile, purely mated, disease free; safe arrival guaranteed. Price list on application.—GAETANO PIANA, Castel San Pietro, Emilia, Italy. r.l.83

ITALIAN QUEENS direct from Italy.—Address, ENRICO PENNA, Bologna, Italy. Price List for 1921 on application.

START RIGHT! Keep right! Avoid "Wight"! —ALF. RYALL'S advice tells you how. r.o.144

ALF. RYALL sells Bees. Stamp for prices.

UNSURPASSED IN VALUE.—To popularise the new method of scientific bee-keeping, *Adminson's Semi-comb* is sold at almost cost price.—ADMINSON, LTD., Benson, Oxon. n.79

DUTCH BEES.

¶ The first large edition of my literary brochure and illustrated catalogue describing these hardiest of all bees is nearly exhausted. It *will* interest you to have a copy if you have already seen one. It is yours for the asking.

¶ Characteristics: Dutch bees are credited by all impartial critics with splendid prolificness, eminent suitability for comb honey production, and fitness for use with large hives; and, above all, their remarkable resistance to *Acarine disease*, as confirmed by recent research (see Dr. Rennie's Report, pp. 747-751).

¶ Supplies: (1) Skep colonies, with full combs, strong and guaranteed healthy. Each £4, carriage paid. *Immediate delivery.*

NOTE.—These are *not* small driven lots with half depth combs.

(2) Ten-comb stock in "Cumbernauld" hive, with excluder and crate of sections, £6 10s., carriage *forward*. *Immediate delivery.*

¶ References: "Those who fancy this variety cannot get them from a better source than 'Orme Lodge Apiary,' Mr. Whyte is Agent for the best known and largest bee-keeper in Holland, Hans Matthes."—The B.B.J., March 10, 1921.

"The championship of the Dutch bee, for which Mr. Whyte is known, receives an illuminating tribute in his catalogue, which is a literary and practical treatise on this hardy race of bees."—The *Bee World*, April, 1921.

R. WHYTE, Orme Lodge Apiary, Cumbernauld, Dumbartonshire.

Fertile Italian Queens. May 10/6. Satisfaction guaranteed. PEARSON & GALE, Marlborough.

Dutch Bees in Skeps for Re-stocking.

READY FOR IMMEDIATE DELIVERY.

THESE bees on account of their prolificness are eminently suited for the purpose of making nuclei to which Italian Queens can be introduced. It is possible to make up to 12 nuclei from one Dutch Stock during one season. Have a limited number of Dutch Skep Stocks, imported 1921, for disposal at the low price of £3 10s. each, carriage paid. Cash with orders, which will be filled in rotation.

BEE JOURNAL Office:
23, Bedford Street, Strand, London, W.C.2.

"REINFORCED" FRAMES. Frames ready for the bees and with strengthening wires sunk right into the foundation. Standard 1/4, Shallow 1/3 each, postage 1/- per doz.

E. J. BURTT, Manufacturer, GLOUCESTER

Illustrated catalogue of Beekeepers Supplies free on application.

"THE BEE WORLD."—*The "winged" paper that circulates. It is read, re-read, and treasured.* Will it not appeal to you? Specimen copy post free.—Publishers: THE APIS CLUB, Benson, Oxon. r.o.36

ADMINSON'S SEMI-COMB.—The latest achievement of scientific bee-keeping and modern engineering. In British standard, 16 in. x 10 in., and shallow sizes, the last with drone cells. Try it for the production of extracted heather honey.—ADMINSON, LTD., Benson, Oxon. r.m.119

EXCEPTIONAL OFFER.—*Adminson's Breeder Hive,* fitted with ten standard aluminium semi-combs, costs £4 2s., carriage forward. Worth double this price.—For Adminson's Hives and Appliances write to JAMES LEE & SON, LTD., Uxbridge. r.n.23

ENSURE a good honey crop this year by purchasing our noted 6-frame Italian Stocks. Catalogue free on application.—PEARSON & GALE, Marlborough. r.n.173

BEE KEEPING.

INSTRUCTION BY CORRESPONDENCE COURSES

Difficulties solved for Beginners.

Students thoroughly prepared for the

British Bee-Keepers' Association Examinations.

(a) Preliminary, (b) Intermediate, (c) Final.

For particulars apply to

PENNINGTONS, *Horticultural Tutors,*
254, OXFORD ROAD, MANCHESTER.

GORDON ROWE, 28a, Moy Road, Cardiff.

HONEY PARCHMENTS, stamped pure honey, 2 lbs., 14s.; 1 lb., 9s. 6d.; ½ lb., 7s. per 100; 500 lots carriage paid.—THE SUN PACKING CO., 28a, Moy Road, Cardiff.

The products of the Apiary, of Poultry and Farm Stock, of the Fruit and Vegetable Garden can be Advertised and Sold through

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THE

British Bee-Keepers' Association.

Insure *now* against loss by damage done through bee stings. All particulars from

W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

Our Clubbing Offers.

By the publication of the mid-May number of the *Bee World*—which needs no introduction to many of our readers—our contemporary has completed its second volume. Its last number contains the beginning of a series of illuminating original articles on "Acarine disease," by Dr. John Rennie, F.R.S.E. Copies may be obtained from our office at 9d. each (hand delivery), or 10½d. post free.

Regular readers of the JOURNAL may avail themselves through us of one of these clubbing offers:—

(1) The regular supply by post for one year of both the JOURNAL, commencing June 2, and the *Bee World* as published, commencing June, 1921, for £1.

(2) The regular supply by post for one year of both papers, *plus* THE BEE-KEEPERS' RECORD (including the June number of the latter) for 22s.

Since printing preparations have to be made in advance, for a beginning, so as to meet the demand, definite orders should be sent in as early as possible. Do not miss your chance through leaving it till "to-morrow." Send your order *now!*

A Dorset Yarn.

Bees are storing honey at a rapid rate in Dorset, standard bars of comb drawn out and filled in ten days. All this is largely raspberry honey; these are not capped, six of the eight are full. The flowers are close to the hives, so the bees get back with nectar quickly. Some of the hives have sections filled. Several have two racks on, one with three; these are stocks that wintered with unfinished sections on top, and have not swarmed. One lot with eight standard bars of comb on top of brood chamber has swarmed twice: those that had three combs of brood and the queen taken out have not troubled to swarm, but have begun the sections. Some of the new lots that were started with three bars and drawn-out combs have the honey shining in the cells along the tops of bars. This is all since May 2, and shows that bees are making good this year. Other stocks covered down with a board top and a strip of glass to see them have wintered through, but have not increased the population as rapidly as others. Three of these are Italians; a comb of brood from one of the populous stocks has "gingered" them up. One of them that was very yellow I gave a comb that was full of advanced brood, and the bees that were on it. There was no antagonism to the interlopers, and they all worked together as if they were of one race.

In the valley lot of hives, which are nearly a mile from the farm, all the stocks (but one) had three combs taken out on May 2. These were placed in other hives to make increase without swarming, and the one left threw a large swarm on May 17. This one was a July swarm of last year; it had a rack of unfinished sections on all winter, and is in a hive made of soap boxes, tiered up one above another, with a sloping roof. It had only eight bars (there was not room for more), but only a few sections in the centre had honey in them. There was no excluder, and the queen could have gone up into the sections if she chose, yet this hive swarmed, while others with ten and thirteen combs have gone on working the sections and bars of comb without swarming. (These, with full complement of combs, are at the farm.)

Bees do not do always the same. Last year only one in ten had excluders over the brood nest, only one of the whole had the queen in the sections. This year not one of the stocks without the queen excluder has had the queen in the sections; one with thirteen combs and an excluder has one rack of sections complete, one drawn out, but not all capped over, and beneath these I placed a rack of extra large sections (bought at a sale). They are the depth of shallow frames, and should hold 2 lb. of honey compared with the ordinary ones in use. This one had a rack of sections on all winter without the queen excluder; these sections were not all emptied, all of them had the lower part taken out, mostly in March and April, the latter month mostly. The combs are old, and the section rack does not cover them completely. I cover the space with a strip, and fill the holes with wax, but each year the bees eat their way through and have a free way, or "bolt holes," where ends of bars are broken.

We had a representative up from one of the Bournemouth dairies last week. He told us of a famous singer who purchased £7 worth of sections in one lot. The general public do not know the value of honey for the singer, but I always found that honey was the greatest help when having to sing in the choirs in oratorio. The voice was clear, one had plenty of breath, and one had the greatest pleasure in life to sing, "Round About the Starry Throne" and "Triumph over Death and Thee, O Time." Many only buy honey as a luxury or to keep in the house for sore throats and colds; they do not look on it as a valuable food as Madame Christine Nilsson does. I would that writers on food values would make a great deal more of the high value of honey as a necessary food for man.—J. J. KETTLE.

[We can, from experience, fully endorse all friend Kettle says as to the value of honey for the throat when singing or speaking, although we have never aspired to oratorio.—EDS.]

Jottings from Huntingdonshire

The bees have had another good week finding, now the bean blossoms are giving forth such delicious perfume, that source of nectar irresistible. The clovers are not altogether ignored, nor is the charlock, but bees love to go in crowds to one spot, and that spot this past week has ben a 20-acre field of beans. Pollen, too, has been carried in great quantities, and breeding continues very rapidly, so rapidly that with the hope of getting section and run honey ready for Ramsey Show I have de queened a stock. De-queening is one of the best methods of getting honey stored in the supers, providing that the stock is strong; one, of course must be ready to re-queen in a week or two, unless the bees are preparing to raise a queen for themselves, which depends upon there being eggs or young grubs when the old queen is removed. Things are much too kindly for bees to be cross, and stock after stock can be handled without any sign of anger on the part of the bees. One lot only I found inclined to be irritable, and there was a reason—too many old combs. The queen had deposited her eggs where usually honey is stored in the cells near the top corners of the combs. A frame or two of newly-drawn-out comb soon put her majesty and all her subjects in a good humour. Old combs, as Mr. Simmins reminds us, are first-rate when packing down for winter, owing to their power of retaining warmth, but in summer neither bees nor their queens care for being confined to combs their great-great-grand-parents worked on.

The land is looking very thirsty, and a good rain would do a power of good. The bees, not less than their owners, would rejoice to see a few seasonable showers.

The country exhibits herself in her glory. The elms, so slow in movement, have caught up with the ash and oak, and offering acceptable shade to cattle during the heat of the day and sanctuary to the birds by night. The hedgerows are ahead of their time. One does not wish to see dog roses in May; they are more welcome when the chestnut and May blooms have passed away, while the great white convolvuli are far more attractive when they accompany the elders in June.

So full is the countryside. Each day unfolds some fresh flower. It is difficult to keep pace with the great rush of beauty. If every soul could be touched by the spirit of May what a world of happiness ours would be! Can it be that the hum of bees, the song of birds, the wealth of green, the scent and beauty of flowers, the wandering, winding streams, the grazing cattle, the gambolling lambs and the dancing foals are unable to stir the souls of some men? It seems incredible, yet a man found his way here the other day—a Government official, by the way—and delivered himself thus: "Well, of all the desolate holes this is the limit, right the back of the map, thought I should never get here. I should think this is the last place God made, isn't it?" My reply surprised him. "I have often wondered so;" I said, "whether He did make this last, and therefore more beautiful than the rest." "Dickens," he exclaimed. "You don't mean to say you like it! I should go mad in a month if I lived here." I was nettled and said: "Perhaps so, because your soul is satisfied to move in a lower plane than mine. You love soot and dust, hot pavements and noisy streets, miles of bricks and crowds of people, stifling air and rumbling buses. We in the country love trees and flowers, birds and butterflies, ferns and fungi, expanse and undulation, the air rich with oxygen and a myriad perfumes and the joyful hum of the bees, to say nothing of the joy of the hedgerow and field."

"Bees!" said he. "You must be a bit eccentric to express a fondness for bees; the rest of what you say may be all right. But the desolation; why you haven't even a tram!" Are there many like that up London way, Mr. Editor? I hope not. I forgot to ask my friend if he ate honey. Perhaps not, because the little bees crawl over the combs. —E. F. Hemming, Steeple Gidding.

Notes from Gretna Green.

Bees are in forward condition here, and I have been dividing my strongest stocks, giving young Italian fertiles to the queenless portions. Our honey flow is not due for several weeks, and it is as well to anticipate the swarming impulse by dividing prematurely strong colonies. In a solely clover district such divided lots might profitably be re-united into one powerful colony just as the honey flow begins, but in our clover-heather district I defer uniting until August. Even then it is advisable to use two queens in a hive during the heather honey flow as one means of avoiding brood-nest storage.

Swarming Time.—Swarms from section-supered colonies can be put back on ten partly stored combs taken from an extracting hive, and the sections replaced. The original brood combs, cleared of bees and queen cells, are put on the extracting hive, and their turn can be used to make a new brood nest for the next colony that swarms.

"*Isle of Wight*" *Disease.*—Only one case in our district this season, and it was effectively treated at a total cost of twopence. No; not for sulphur to destroy them. Two packets of "Flavine" for spraying and feeding stopped all crawling symptoms. I noticed a recent inquiry as to what should be done with stocks found badly diseased in winter, and must say that prevention is better than cure in such cases.

Prevention is simply a matter of timely re-queening with vigorous queens, correctly reared in full colonies during the honey flow, and mated to drones from healthy stock.

So far as my experience goes any colony thus re-queened is immune to "Isle of Wight" disease, *while the original queen continues to reign.*

I have one marked queen now in her third season, whose bees have never shown any

signs of disease, even after getting combs of honey from infected colonies.

There is no reason why daughters from such queens should not be equally immune if we can guard against their mating with infected drones.—J. M. ELLIS, Gretna.

May 18

The Saharian Bee.

I wrote you a card from South Morocco to tell you that I saw the yellow "Saharian" bee, but had not then actually had one in my possession. After having visited half a dozen oases—for the bee in question is only found south of the Atlas on the Saharian declivity—I finally came across a man willing to sell a hive. This beautiful bee is very rare in the places I visited, and as the Berabers down there have only dates and some scanty vegetables growing round the palm trees, they badly want the honey, however small or great the harvest.

The bee very much resembles the Cyprian, both in colour and in the well-marked crescent of a golden tint at the base of the thorax. The drones are rather darker, with a few but very narrow yellow bands. The queen which I have in my possession is of a dull yellow hue. Invariably the last ring of the abdomen is quite black while the next one is half black.

I send a photo taken here of queen and bees on their comb, but the artist has enlarged them a little. As a matter of fact, the bees are a little smaller than the ordinary black-brown bee we have here in the south, but larger than the black bee of North Africa variously called "Kabyle," or "Algerian," and by some "Punic," but I think the best name for this would be "Tellian," because she lives in all the region known as "Tell" by the inhabitants of North Africa. The "Tellienne" in French lives and thrives all along the Mediterranean coast from Tunis to south of Mogador, and inland up the Atlas to the limit where bees can thrive. There is a sterile or half-sterile tract of country known as Hauts-Plateaux or Region des Steppes, something over 200 kilometres in breadth all over Algeria and part of Morocco of the Great Atlas, where bees cannot live, as the graminaceæ growing there, such as alfer, diss and drinr, are only good for camels and herds. Moreover, the Hauts-Plateaux reaches an elevation of over 1,000 metres, and up to 1,300 near Mechesia, and in March it was bitterly cold. No bees are kept there, so the black races are strictly separated from their southern yellow cousins by this cold region. The limit of the "Saharian" bee I found was at Ain-Sefra, beyond which it does not exist. The question now arises, How did that bee come there into such a flowerless country? Probably when the southern Atlas was densely wooded some 2,000 years ago bees could thrive, but did they come from Cyprus, imported by Greek colonists to Cyrene, thence by Jewish settlers or persecuted tribes in the first century? This last hypothesis seems to me plausible. You know the Jews now living there have been known for eighteen centuries. They only talk Arabic or Baraber, although when I went into a Synagogue I heard the Rabbi teach the children to read the Pentateuch in Hebrew. The books which the twenty boys had in their hands were of English origin, Genesis, Exodus, etc., being printed in Latin characters at the head of each book.

I do not know what the colony will do here. I have not yet been able to build up the nucleus, which I watch anxiously. This bee was first noticed by M. Bernard, treasurer of the Société des Apiculteurs Algériens, but he has not succeeded in bringing it into working shape, as he told me when I saw him in Algiers in March this year.—PH. J. BALDENSPERGER.

Nice, April 18, 1921.

Besides Honey.

By "TRENT."

I.

Yes, there are many other things, profitable and otherwise, to be derived by keeping bees besides honey, and without much hesitancy one could tick off each of his fingers with a distinct benefit to the bee-keeper. There is an interest and occupation for the mind; the deepening of one's knowledge in the entrancing study of the open book of Nature; a keener and quicker sense of judgment; all these in time reflect in the character of one who pursues the craft. Then, coming to the more general benefits, we may include the resultant health and pleasure obtained from an out-of-doors hobby, and the intermingling with its closely allied sister—horticulture; the humour in the many incidents which occur, and it is on these latter little-spoken-of benefits that I write of, for during the long winter evenings by the fireside, when one has finished every word in the current "Journal" and his other bee literature, or perhaps when one is perusing the diary of last year's work in the apiary, many thoughts of past experience there recur to one's mind—the failures, successes, and the little incidents which come cropping up though the humour in them was not so apparent at the time; yet, on looking back, the bee-keeper finds they bring forth a quiet smile, if he himself has any humour left in his soul.

It has occurred to the writer many times that among the habits and instincts of the honey bee there is included a very practical, though little spoken of, sense of humour, which is often indulged in to his discomfiture, but whether this humour is spontaneous on the unit's part, or the considered will of their particular community, is for us a matter of conjecture only.

One Sunday afternoon, on an after-dinner stroll, I met a friend who had several times expressed a desire of seeing my wonderful bees, and, being a fine day and a good opportunity, I took him to the orchard-garden-apiary where my bees dwell. He was

naturally a little nervous, this being probably his first introduction to bee life, so I located him under a tree where I explained he could see the happy throng without fear of molestation on their part. After a little manipulation and many explanations of their doings and the inner construction of the hive, which is a great mystery to the uninitiated, we sat and watched them policing at the entrance. He was evidently impressed with my exhibition of coolness whilst handling them, and foolishly I boasted of my fearlessness, but hardly had my words been uttered when, straight from nowhere and as swift as a bullet, one of those capricious little wretches collided purposely with the extreme tip of my nose with an impact which quickly brought tears to my eyes and made me eat my words, and as we walked quickly away the merry buzzing of those myriad workers, as they whisked in and out of the hive, seemed to develop to my stinging senses into a roar of derisive laughter; *then* I saw no humour in it, I could see nothing but my quickly swelling nasal extremity. But my friends did, and the bees—I wonder?

Apparently there is a truth in the old custom of "telling the bees," and since then I have been careful what I say concerning them in their presence.

In the Nottingham Castle picture gallery is a noted picture which always attracts attention, and is entitled "Busy Bodies and Busy Bees," a fine painting of several terrier pups evincing a great interest in a skep of bees which is shown placed on a bench. One dog is standing with his fore feet on the bench looking intently into the entrance, where the bees are seen going in and out; another is closely studying a bee on the floor. Of course, the picture is a splendid animal study, and the expression on the dogs' faces is—well, all dog lovers know how they can look when anything greatly interests them; but to the writer the great point of the picture is the mischievous little imp slinking away with his bobtail tucked closely between his legs, and a bee perched on his back just above the top of it. His curiosity has abated for the time being.

Dogs, as a rule, have a great respect for the near vicinity of beehives; my dog has, but he has a different kind of respect, however, for the extractor. His great ambition is to be about when the extracting is in progress, to lick up the many drops of honey which persist in reaching the floor during the operations, and for months afterwards will "sit up" should he happen to be in the room where this utensil is kept.

No better or more useful watch dog could be desired than a hive of bees situate in an orchard or allotment where one tries to cultivate small fruit. One can feel quite safe if the bees are there, though a million little boys, with that immense fruit craving they all possess, live near. He would get more, because there would be less taken away (even his garden "friends" would be less frequent visitors), and his crop would be finer, on account of the extra fertilisation, as all bee-keepers know.

(To be continued.)

Various Races of Bees.

Mr. Trowse would like to hear the opinion of others as regards races and crosses of bees.

Well, here are some of mine.

My experience with Dutch has been confined to the first cross, Mr. Trowse finds them similar to blacks, only more interesting; if he finds swarming interesting I can understand him. Mine always swarmed as soon as they had built up to a reasonably sized stock, paying no regard to the size of hive or number of unfilled frames. The queens were prolific, and stocks built up well in the spring, but no better than the best Italians, and while good Italians are obtainable I shall have no further personal experience with Dutch.

Mr. Trowse objects to the imported Italians, they are fine weather bees, soft, and the queens often hard to mate; after the first cross they degenerate. He then goes on to praise the "cultivated home-raised Italian breed" having none of these faults.

Where did he get them from?

Pure Carniolans I have never tried, but I once had some second or third cross, and they were the worst bees I ever had, being cross, bad storers, and beating even the Dutch at swarming.

A point of some importance which is frequently overlooked in judging the imported queen is her confinement and rough handling in the post over a long period, which frequently does her more harm than is generally realised, which I think accounts for the fact that a purely mated, home-reared queen will be so often a better queen than her imported mother.

Mr. H. M. Stich, letter 10373, in speaking of the adoption of the Italian bee in America, says, "It is not a question of a special strain ('special strain' is only an advertising subterfuge)." What does he mean? It cannot be that an apiarist of Mr. Stich's experience has not noticed the vast difference between the various strains of Italians.

Personally, I think the strain has everything to do with the superiority or otherwise of the Italian bee, and I believe that it is the question of strain again which accounts for the extraordinary variance of opinion one sees expressed under the familiar heading of "Native v. Foreign Bees." Mr. Stich goes on to say that "They are Italians pure and simple, and kept vigorous and pure by importing breeding queens from Italy."

If the statements of certain of the foremost queen-breeders of America may be accepted, it is not their custom to keep their strains vigorous and pure by importing breeding queens from Italy.

It may interest Mr. Stich to know that I have imported large numbers of queens during the last few years from numerous breeders, both in Italy and America, but it is not to Italy that I now look for my best queens.—E. W. D. Madoc.

January 31, 1921.

An Appreciation and a Suggestion.

Though life is so full of work for me, it is a very busy week when I cannot find time to read the BEE JOURNAL, and I should like you to know how high an estimation I have of its value to bee-keepers under its present editorship. You are keeping up all the ancient traditions of the B.B.J. splendidly, and I particularly enjoy the writings of the old contributors, such as Mr. D. M. Macdonald, although the new men bid fair to do as well as any. If I might venture on a small criticism it would be only to express regret at the absence from your pages of the time-honoured word "Bee-master." Does no one claim to be a bee-master now? Or is the disuse of the word in the B.B.J. due only to an inordinate modesty in the rising generation? As one of the "old stagers" in bee-craft, I would gladly see its return to favour. Your great predecessor, the founder and first editor of the JOURNAL, Charles Nash Abbott, always used the title in and out of print; and it would please me—and no doubt many others among your old-time readers—to see you revive it. In this breakneck, utilitarian age we can ill-afford to let any ancient and comely thing drop into oblivion.

By the way, in a recent issue you had a notice of Messrs. Overton's catalogue, in which you referred to the hive which bears my name. This hive has been made to my design and sold by Messrs. Overton for many years past. But I should like your readers to know that I have no financial interest in the sale of this or any other bee-appliance. The only money I make out of bees is by writing about them.—Believe me, sincerely yours, TICKNER EDWARDES.

[We are, of course, always pleased to hear that our efforts for the good of bee-keeping are appreciated; commendation from a writer of the Rev. Tickner Edwardes' standing is doubly pleasing. We are sure our readers will be pleased to see the illustration of the author of "The Bee Master of Warrilow," and other well-known books, in his apiary. Why the title of "Bee Master" has dropped we are unable to say, but we notice the Scottish B.K.A. have revived it in naming their certificates "Bee Master" certificates, and we see no reason why it should not be in more general use.—EDS.]

Preparing for the Heather.

As many North Country apiarists depend upon the heather for their honey, it is hoped that further articles will be forthcoming from North Countrymen. Mr. Harmer did well in putting the subject once again to the front. Major Sitwell's article upon "Granulation" was very instructing, but hailing from Wooler, many of his neighbours would be thankful for his advice on how to prepare for the heather. Could we get some of the experienced hands to give assistance upon the following:—

(1) The best hive. (2) Queen or queenless. (3) Condition of colony; all for the heather?

Here is much scope for helpful notes which would be valued by many of us who in these Northern counties depend on the heather.

It was a pleasure to get an article from

"Robin Hood" dealing with the Long Framlington Moors, Northumberland. We on Tyneside send our stocks there. Mr. Jackson, of South Shields, and the writer took five stocks there last August, to the Toll House, two miles north of Long Framlington. The farmer had three other stocks there only. He told us he used to have as many as 100 hives there—and now last season only about a dozen! Such is the toll of the "Isle of Wight" disease, which has swept Durham and Northumberland. Our five stocks *filled all their ten brood combs*! one stock filled a dozen sections as well. The first two weeks were bitterly cold; nothing doing. After that the nights were very cold. We thought the cold, and our hives being single-walled, kept the bees down. We had a strange experience. One stock was headed with a young native queen, two months old, and laying. Her progeny now are showing golden bands. What has happened? Has she been killed and an Italian queen taken possession of the hive while on the moors? There were Italians there, also hybrids, because we took three stocks of hybrids and two of natives. These moors are excellent, and hundreds of stocks could find fodder. In conclusion, the writer wonders if it is possible to form a Tyneside Bee Society? The county societies, Northumberland at Wooler, and Durham at Bishop Auckland, are too far away for Tyneside. Surely Newcastle should be a centre.—J. S. Giles, South Shields.

Bee-Keeping in Canada.

Activities of the Experimental Farms Branch.

By F. W. L. Sladen, Dominion Apiarist.

Honey production has long been a profitable occupation for a man's whole time in Ontario and Quebec. The last few years have seen a decided development in this direction in favourable parts of the other provinces, while in Ontario the commercial bee-keeper has advanced to the further stage of keeping out-apiaries, which he visits by motor with his assistant, and brings back the supers to a central honey extracting plant.

The primary cause of the great proportions to which the bee-keeping industry in Canada is now reaching is the high average production of honey to the colony, which is due to the long summer days which are warm and sunny, alternating with the cool (not cold) nights, sufficient rainfall and suitable soil, all these factors contributing to cause an abundant secretion of nectar. The winters, with their steady, dry, cold and continuous covering of snow (an excellent insulator) also have advantages, because the bees, if properly prepared for winter, rest more completely than in the South or in England, and they breed up very rapidly in the spring, which comes late with heat and long days.

The great clover honey-producing region of North America, probably the greatest in the world, centres in the country east of the Great Lakes, and the best part of it is within the boundary of Canada. In British Columbia large returns have been obtained from fireweed, and in certain parts of the country there are other important sources of honey, such as basswood, buckwheat, alfalfa, wild raspberry, golden rod and aster, dogbane and wolfberry. Canadian clover and fireweed honey possess in superlative degree the light colour, good body, and delicate flavour that mark the best honey both on the show bench and in the estimation of most consumers.

The energy, adaptability, and youthful optimism of the Canadian people, fostered by the healthy climate and good social conditions, are other factors for success. Between five and ten million pounds of honey are produced annually, and practically all of this finds a ready domestic market.

The activities of the Experimental Farms Branch of the Dominion Department of Agriculture in bees include experimental apiaries at seventeen of the Experimental Farms:—Two in Nova Scotia, one in New Brunswick, one in Prince Edward Island, three in Quebec, two in Ontario, two in Manitoba, two in Alberta, and four in British Columbia. At these apiaries the local conditions are carefully studied, sources of honey investigated, colonies kept on scales, and experiments in wintering, spring management, and the control of swarming conducted. Line breeding of bees has lately been added, the queens being mated on an isolated island in Lake Ontario.

Most of the provinces have foul brood laws, under which inspectors are appointed. Much good has resulted, and more is expected from the education of bee-keepers by the inspectors, who demonstrate better methods of bee-keeping, including Italianising, by which European foul brood is successfully controlled, and the shaking method for American foul brood. The principle of treatment in the case of the former disease is the building up of a resistant strain, and in that of the latter disease the removal of all infection.

Doncaster and District Bee-Keepers' Association.

On Thursday, May 19, the second of the summer gatherings was held at the apiary of Mrs. W. Clark, of The Model Farm, Adwick-le-Street, when a most interesting lecture and demonstration was given by Mr. J. A. Claxton on "Artificial Swarming and Doubling." The day was beautifully fine, and there was an excellent attendance of most enthusiastic members. The lecturer made everything so clear to the merest novice that all thoroughly enjoyed themselves. After the demonstration, an excellent tea was most kindly provided by the owner of the apiary to all present, so that all returned home fully satisfied both mentally and physically. A rather novel way of allowing all to examine a pure Italian queen was done by placing her majesty in a cage, during the

making of an artificial swarm, the cage having a strong lens for lid, so that all could see for themselves the beauty of a really healthy Ligurian queen.

M. YATE ALLEN, Hon. Sec.

Suffolk Bee-Keepers' Association.

ANNUAL MEETING.

The annual meeting of the Suffolk Bee-keepers' Association was held on Wednesday evening, April 13, 1921, at the Town Hall, Ipswich, when Mr. T. Edgar Mayhew was in the chair, supported by Mr. J. W. Freeman, hon. secretary, and Messrs. F. S. Elliott and T. Payne. There was only a very small attendance.

The balance-sheet showed a balance in hand of £24 13s. 3½d., members' subscriptions for the past year amounting to £18 17s. 6d.

The chairman said that the Earl of Stradbroke having left England, it would be necessary for them to elect another president. It was decided that Sir John Ganzoni, M.P. for the borough, be approached to accept the presidency.

Mr. J. B. Chevallier was re-elected chairman, Mr. F. Edgar Mayhew vice-chairman, and Mr. Freeman hon. secretary.

Questions, &c., for Bee-Keepers for Self-Examination.

(Students are recommended to write their answers, and check them afterwards by reference to books.)

513. Describe the make and use of a queen-excluder.

514. What can be done to prevent robbing while honey is being extracted from combs?

515. In what cells only is pollen stored?

516. In what respect does honey from honey-dew differ from honey from nectar?

517. State the advantages accruing from the use of a supplementary alighting-board which reaches to the ground.

518. When a colony of bees is found to be persistently bad-tempered, how can this be corrected?

519. When a colony swarms, why do some bees only leave the hive in the swarm and the others not?

520. Describe the disease known as pickled brood, and state how it can be detected, and what is recommended to be done to get rid of it.

J. L. B.

A Hint for Strawberry Growers.

As the majority of bee-keepers are also gardeners, I venture to publish a plan I find most successful to ensure a heavy crop of Royal Sovereign strawberries:—Pick the flowers off the plants from which you intend to take runners. Select the first and earliest of these runners, and plant out for fruiting next year about a foot apart not later than July, earlier if possible. Repeat this year by year, always taking runners from plants from which the flowers have been removed, and never keeping any plants longer than one season. This plan takes two seasons to establish, but after that ensures a heavy crop every year.—E. GORDON.

Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.

Recipe for Mead.

[9925] Can any of your readers give me a really good recipe for making mead, please?—R. S. S.

REPLY.—The following, reprinted from THE BEE RECORD for May, will probably answer your query:—

[1888] Would you kindly answer the following in THE BEE RECORD?

(1) What proportion of yeast should be put to 3 lbs. of honey and 2 gallons of water in order to make mead?

(2) What sort of yeast should be used?

(3) What sort of jars ought to be used for putting the mead into?

(4) Is it to be corked up tightly whilst hot?

(5) Will it be all right to keep the mead in wine bottles when ready for use?

Any hints given will be gratefully received, as I can find no full recipe anywhere. —A SUSSEX BEGINNER.

REPLY.—It will be better to use rather more honey, 2 lbs. of honey and the rinds of two lemons to each gallon of water will make a light mead. For a stronger beverage which it is intended to bottle and keep, use 3 lbs. honey and the rinds of two lemons to each gallon of water. Boil for 20 to 30 minutes, not longer, skimming off all scum. Strain out the lemon peel, and pour the liquor into a cask, this should, of course, be clean and quite free from mustiness. When the temperature is between 80 and 90 deg. Fah., add two tablespoons of brewers' yeast. The yeast germs need a certain proportion of nitrogenous matter for their nutriment. In the old-fashioned method of using the honey washed from old combs from the skeps after the bulk of the honey had been strained from them, the nitrogen was supplied by the large amount of pollen that was also washed out. There is very little pollen, however, in extracted honey, so it is necessary to supply nitrogenous matter, a little phosphate of ammonia and cream of tartar being usually employed, not more than ¼ oz. of each to two gallons of liquor. During fermentation the mixture should be kept about 65 deg. Fah. Tack a piece of muslin over the bunghole of the cask to keep out insects, and let it stand until fermentation has ceased. When filling up the cask some

of the liquor should be kept over, as during fermentation the liquor will sink, and it will be necessary to fill up the cask occasionally. When the liquor has quite ceased working, bung up tightly, and allow it to mature for six months. It may then be bottled. Fermentation may be stopped at any time by adding ¼ oz. of sulphate of lime to each gallon of liquor, and mixing thoroughly. Wine bottles will be suitable for bottling the mead.

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of April, 1921, was £739.—From a return furnished by the Statistical Office, H.M Customs.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

"C. S." (Wallington).—*Projecting Comb.*—(1) Cut off the piece of comb projecting from the bottom corner, and, if possible, change the position of the comb, placing it between two flat combs, so that the bees will not be so likely to build another piece of burr comb.

(2) *Section Rack Not Covering Frames.*—If you place the usual standard rack, holding 27 sections, over 14 frames, cover the exposed portion of the frames with a piece of wood, calico, or other material. You could make a larger rack to hold 35 sections. It would be somewhat unwieldy, and would also need a larger clearing board when removed.

"Anxious Inquirer" (Suffolk).—*Price of Honey* —There is not much English honey on the market yet, so cannot say definitely what prices will rule. Probably 1 lb. glass jars 2s. to 2s. 6d. each, and good quality sections 2s. 6d. to 3s. each.

Miss D. A. (Suffolk).—*Swarm Decamping.*—We are sorry we are unable to give any reason for the swarm deserting the hive when it contained a comb of brood. It is very seldom they will desert brood, but it does happen occasionally. Had there been no queen they would not have remained in the skep for six hours—six minutes would be nearer the mark. The omission of the beer and sugar, and the promise to *sell* the swarm would not make any difference.

"A. W. M." (Bedale).—*Identification of Bees.*—The two bees were *Andrena albicans*. They are wild bees, and neither build comb or store honey. It would be impossible to get them to live in a hive. They gather pollen from the flowers, which is moistened and kneaded with a little honey and placed in the base of the cells (usually simple burrows in the ground) as food for the larvæ.

"W. W. Y." (Grinstead).—*Vicious Bees.*—Your explanation—no food in the hive—is probably correct. "A hungry bee is an angry bee." In this case the remedy is obvious—give some syrup. Bees that are habitually vicious should be re-queened. We have found a little tobacco, about a pipeful, rolled up in the paper used in the smoker useful at times, but do not use the tobacco paper made for fumigating glasshouses. The change of temper is not likely to be permanent, unless the bees have superceded the original queen.

"C. L. M. E." (Devon).—*Clearing and Disinfecting Combs.*—As the brood combs have been extracted it will not be a difficult matter to clean them. Allow to soak for, say, twelve hours in water to which some disinfectant has been added. The best method of ensuring that every cell is filled with water is to force it in with a garden syringe. After soaking they should be again well syringed, and may be finally washed out with clean water.

"Enquirer" (London, W.).—*Coverings for Bees.* —It is advisable to keep a fair amount of coverings over the bees, as this tends to keep the temperature of the hive even. A piece of linen, calico or ticking first, covered with four or five thicknesses of felt, flannel or carpet will be sufficient. One of the materials mentioned is better than American cloth. Of the three we prefer ticking, but calico is generally used.

Dealing with Swarms.—If you allow the bees to swarm twice you will probably not get any sections. Better hive the first swarm on the stand now occupied by the old stock, removing it to another site. If you *want* the bees to swarm, do not put on the sections. Better make an artificial swarm soon as the bees have built queen cells. You are then certain the bees will not decamp.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d. up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 8, at Ramsey.—Huntingdonshire Agricultural Show. Bee and Honey Department in charge of the Hunts Bee-keepers' Association. Open Classes for Honey (comb and extracted) and Wax. Prices, 10s., 5s. and 2s. 6d.—Schedules from Mr. F. Tunnington, Thrapston Road, Brampton, Hunts. **Entries close May 31.**

June 8 and 9, at Rochford.—Essex Agricultural Show. Bee and Honey Department in charge of Essex Bee-keepers' Association. Sixteen Classes, all but one open. Silver and Bronze Medal, and many prizes.—Schedules from G. R. Alder, Hon. Secretary, E.B.K.A., 7, Bulwer Road, Leytonstone, E.11.

June 15 and 16, 1921, at Burton-on-Trent.—Staffordshire Bee-keepers' Association Show in connection with the Staffs. Agricultural Society. Four Silver Medals and five Bronze Medals in Local Classes, one Silver Medal and one Bronze Medal in the Open Classes.—Schedules from W. Griffiths, Solway House, Silkmore, Stafford. **Entries close May 28.**

June 28 to July 2.—Derbyshire Bee-keepers' Association's Show in connection with the "Royal" at Derby. Open Classes, good cash prizes and gold medal offered.—Schedules, apply F. Meakin, 37, Pybus Street, Derby. **Entries close May 30.**

June 7 to 11, at Bournemouth.—Hampshire and Isle of Wight Bee-keepers' Association Show in connection with the Royal Counties Agricultural Society. Liberal prizes.—Schedule, apply Hon. Secretary, Endsleigh, Ashley, New Milton. **Entries close June 4.**

July 20, at Alexandra Recreation Ground, Surbiton.—Surrey B.K.A. Show. Twenty Classes. Two Challenge Trophies, ten Silver, and 15 Bronze Medals. Eight Open Classes.—For Schedules apply Hon. Sec., W. E. Hamlin, 43, Norbury Court Road, Norbury, S.W.16.

July 20 and 21, 1921, at Cardiff.—Cardiff and County Horticultural Society's Show, Sophia Gardens, Cardiff. Bee section under the auspices of the Glamorgan Bee-keepers' Association. Open Classes.—Schedules to be obtained from the Hon. Secretary, Chas. F. Davies, 5, Borstal Avenue, Cardiff.

Saturday, July 30, and Monday, August 1, 1921, at Lichfield.—Lichfield Floral and Horticultural Society's Show. Bee and Honey Section under the auspices of the Staffs Bee-keepers' Association. All classes open.—Schedules may be obtained from the Hon. Secretary, A. H. Perrins, 30, Tamworth Street, Lichfield, Staffs.

September 17 to 23.—British Bee-keepers' Association Annual Show at Grocers' Exhibition, Royal Agricultural Hall, Islington, London. Entries close September 5. Schedules from Hon. Sec., B.B.K.A., 23, Bedford Street, Strand, London, W.C.2.

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 7s. per ½in., or 12s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

PRIVATE ADVERTISEMENTS.

*** Will advertiser Box 27 kindly send us his full address soon as possible.

SHARE offered in old-established Bee and Queen Business, with ultimate purchase if desired; 20 per cent. guaranteed on not less than £1,000 brought in.—Box 29, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. r.p.104

SWARMS on 6 frames, Italian-Carniolan strain, quiet and energetic, 45s.; travelling box 7s 6d., returnable.—BARRETT, Sunnyside, Cecil Park, Pinner. p.105

BEES, Italian disease-resisting strains. Swarms from 35s., second 30s.; package returnable; cash with order.—YOXALL, Oaken, Wolverhampton. p.106

CHILD'S MAHOGANY CHAIR, 25s.; 50 good Books, 40s.; Meat Safe, 25s.; Leather Hand Bag, 15s.; Box Oddments, 30s.; Pigeon Basket, 10s.; Deck Chair, 7s. 6d.; Corner Cupboard, 30s.; 13 lbs. Leather Belting, 20s.; or exchange Swarms or Honey.—3, Edward Street, Moston Lane, Manchester. p.109

A GOOD BARGAIN.—I will exchange a seven-room and Kitchen Villa, with hot and cold water, and over quarter an acre of garden in Dunoon, the Brighton of Scottish watering places, for a House of one or two rooms in Dorset and one acre of ground.—Apply, Box 30, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. p.110

£1 OFFERED for good Swarm, delivered this month, to MRS. ELMORE, Threefields, Felden, Boxmoor. p.114

NATURAL ITALIAN SWARMS in new skeps, never had disease, 50s. each.—TURNER, 47, Gaisford Street, Kentish Town, N.W. p.117

FOR SALE, Blue Beveren Doe, Mayer's strain, 20s.—Box 31, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. r.p.126

HYBRID ITALIANS, 1920 Queen, 10 frames, very strong and healthy, splendid value, £3 15s., carriage paid; 10s. returned for box.—BROOKS, 81, Petherton Road, Highbury, N.5. p.128

PRIVATE BOARD-RESIDENCE. — Bee-keeper has vacancies from June until September — Apply, MOSS, 12, Park Street, Cambridge. p.86

STRONG 10-frame Stock healthy Italians, two racks drawn-out supers, and appliances, £5 15s., or near offer.—N. SQUIRE, 8, Dalmeny Avenue, Tufnell Park, N.7. p.125

FOR SALE, two Hives, one fitted eight frames and foundation, four section racks, two filled sections; one Zinc Queen Excluder; 24 Tin Separators; 52 new Sections; 22 Sheets Foundation; one very superior Hive, ⅞ wood, to take 12 frames. No disease. No reasonable offer refused.—BOCKING, 5, Mayfield Road, Wimbledon, S.W.19. o.24

OFFERS wanted for 250 grooved and split best quality Sections.—HILL, 50, Westgate, Driffield, Yorks. p.129

EXCHANGE for healthy Bees, or offers, first 13 vols. of B.B.J., perfect condition, handsomely bound.—RUDKIN, 68, Constance Road, Leicester. p.130

FOR SALE, Hives, Stock Boxes, Racks, Nucleus Boxes, etc., and other material for 30 to 40 stocks. Exchange part for Motor Scooter (suitable lady), Motor Bicycle and Sidecar combination. Purchaser to remove.—ASHWORTH, Pound Street, Warminster. r.p.131

WANTED, few guaranteed healthy strong Stocks installed in own hives; disused since war.—J. WILLIAMS, Emberton, Newport Pagnell. p.80

FOR SALE, four good Stocks 1920 Swarms. £3 10s. each.—BRINKLOW, Hadley Wood. p.83

ITALIAN HYBRIDS, strong, healthy Stocks, immediate despatch, 90s.; with hive, 112s.; box, returnable, 10s.—REV. COOPER, 62, Park Hill, Carshalton. p.85

BEESWAX, pure, for Sale, 5 cwts., packed in ½-cwt. bags, £8 16s. per cwt. net, f.o.r. London.—Apply, Box 25, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. r.p.44

FOR SALE, four splendid W.B.C. Hives (Lee's), drawn-out combs in brood chamber, shallow crates and sections, complete, 30s. each; Extractor and other Accessories cheap; near London.—Box 28, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. p.103

SIX new W.B.C. Hives for Sale, never been used, 25s. each.—C. GIBSON, Radwinter, S. Walden, Essex. p.54

SPARE NEW HIVES, to super with standard frames (holds 22) or sections, oak legs, painted, 27s. 6d. each.—COX, 116, Addison Road, Kings Heath, Birmingham. r.p.55

GOOD WELSH GOAT, white, full milk, £2 10s. —W. WOODS, Normandy, near Guildford. p.11

TWO exceptionally strong 10-frame Stocks, believed pure Italians, each headed pure Italian Queen imported direct from Piana, Italy, price £5 each, delivered free.—MILLER, Croft, Hampton-in-Arden, Warwickshire. p.61

1921.—FOUR STOCKS OF BEES, headed with Italian Queens direct from Italy this week. £5 5s. each; also three Stocks with 1920 Queens, £4 4s.; Hives, 25s. extra; Nucleus with 1921 Italian Queen, £3 3s.—WIGGINS, The Bungalow, Norton Road, Wemberley. r.p.75

200 SHALLOW COMBS in perfect condition, 18s. per dozen, carriage paid; boxes returnable.—ARNFIELD, Breinton, Hereford. r.p.76

FOR SALE, healthy Italian Hybrid Swarms, May, 35s.; June, 30s.—J. M. WILKIN, Pymoor, Ely. r.p.1

FOR SALE, 61 lbs. good Welsh Honey. Best offer.—JAMES, Adpar, Newcastle Emlyn. p.9

SUSPECTED BEE DISEASE.—Will bee-keepers kindly forward samples for research purposes?—DR. SMITH, 5, West Castle Road, Edinburgh. r.p.6

FOR SALE, several strong Italian 10-frame Stocks. Seen by appointment, or stamp reply. —W. EMERTON, Apiary House, Chalton, Dunstable, Beds. r.p.13

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

BEE-KEEPING.—Correspondence Course. Practical and theoretical study. Stamp.—MISS PALING, Golden Square, Henfield, Sussex. r.m.89

BUSINESS ADVERTISEMENTS.
1½d. per word.

BEES AND QUEENS FOR 1921.—Send for our Catalogue, free on application.—PEARSON & GALE, Marlborough. r.n.174

FOUR FRAMES of Brood Nuclei, covered bees and brood, Italian Hybrid, £2 10s., or 6 frames £3; travelling box, returnable, 10s.—THE OLD MILL APARIES, Chalfont St. Giles, Bucks. p.107

PURE Imported Carniolan Alpine Queens. List free.—B. WOODLEY, Thorne, near Doncaster. r.p.116

TICKELL'S UTILITY STRAIN. — Queens, Stocks, Nuclei. Descriptive list free.—Westbourne Apiary, Cheltenham. p.108

PURE ITALIAN STOCKS from 70s.; Nuclei, 2-2½ guineas; 1921 Queens, 10s.—LUTON APIARY, Queen's Road, Chatham. p.111

CONTINUOUS BOOKING!—The remarkable increase in the popularity of bee-keeping and number of bee-keepers in the United Kingdom has necessitated both continuous advertising and exceptionally early booking of orders, specially for Imported Queens. We are now booking orders for Alpine Carniolan Queens, May, 1922, delivery at our standard price. As we have been forced to disappoint many customers this season by declining numerous late orders, this early booking is not a month too soon.—ADMINSON, LTD., Benson, Oxon. p.112

3-FRAME NUCLEI, full combs and packed with bees, immediate delivery, 50s., carriage paid: box 10s., returnable.—TICKELL, below.

VIRGIN ITALIAN HYBRID QUEENS, by return, 5s. each, 50s. dozen.—TICKELL, below.

VIRGIN ITALIAN QUEENS, ready in few days, 5s.—TICKELL, below.

FERTILE QUEENS.—Book now for early delivery, 12s. Full printed instructions sent with Queens and Nuclei. Descriptive List free.—JACK TICKELL, Westbourne Apiary, Bee Farm, Cheltenham. p.115

THE QUEEN PAR EXCELLENCE is the Golden Prolific Italian—no soft imported goldens tolerated. Booking rapidly, Queens and Nuclei.—E. COOMBER, Specialist Breeder, 64, Ronald Park Avenue, Westcliff-on-Sea. p.118

DAY-OLD ITALIAN QUEENS, an economical means of invigorating your stock. Reduction for quantities.—E. COOMBER, Westcliff. o.66

PURE ITALIAN QUEENS, fertile, bred in Devonshire, no blacks within miles, May, 12s.; June to August, 10s.; September, 8s.; Virgins half price; Nuclei, 3-frame 50s., 4-frame 63s., carriage paid. Send cash with order for Queens, or 10s. deposit for Nuclei. Special terms to members of the N.D.B.K.A.—TATTERSALL WILLIAMS, The Apiary, Braunton. r.p.71

SWARMING SEASON!—Heavy or light Bee Goods.—Wire your requirements to BOWEN, Bees, Cheltenham. p.119

AVOID LOSS!—Invest in Bowen's Queen Introducing Cage, 3s., post free.—BOWEN, Apiarist, Cheltenham. p.120

STRAW Bee Hives and Straw Caps for supering, wholesale and retail. Prices on application.—LAWRENCE, Lilley, Luton, Beds. r.p.121

IMMEDIATE DELIVERY. — Italian Hybrids Stocks, 1921 fertile Queen, 8, 10 and 12 frames, £3 10s., £4, £4 10s.; covered with bees and full of brood; guaranteed free from disease; case 10s., returnable.—WEBB, 126, Balfour Road, Brighton. r.p.122

IMMEDIATE DELIVERY. — Italian Hybrids, disease-resisting and practically non-swarming strain, 1921 fertile tested Queens, Nuclei or Stocks, 3-20 frames, £1 1s. first frame, 10s. 6d. each additional frame, carriage paid; case 10s., returnable. 10 per cent. off 10 frames and upwards.—STARKEY, 55, Stafford Road, Brighton. r.p.123

28TH YEAR.—Finest 3-frame Nuclei, with pure 1921 Italian Queens bred from selected imported mother, 65s., carriage paid; 10s. refunded for box when returned; Fertile Queens, 10s. each, June delivery. Satisfaction guaranteed.—W. ROBERTS, The Thorne Apiaries, Ninfield, Battle, Sussex. r.p.70

ITALIAN HYBRIDS, Stocks and Nuclei, perfect honey gatherers, fertile tested Queens, £1 1s. first frame, 10s. 6d. each additional, carriage paid; case 10s., returnable; immediate delivery.—STARKEY, Gorsley, near Newent, Glos. r.p.124

BOUND TO CARRY ON.—Have put in an Oil Engine and can execute orders as usual. Send for Kat-a-log.—MEADOWS, Syston. p.127

TWO new necessary aids to successful bee-keeping: Our B.C.W. Board and Queen Rearing Outfit.—MEADOWS, Syston. p.127

GREAT REDUCTION of Dutch-Italian Nuclei from £3 3s. to £2 15s.; Italian and Dutch 4-frame Nuclei, £2 15s.; May-June delivery; carriage paid; cash with orders. No better bees; beautifully clean; healthy.—SEALE, Ashley Cottage, Oatlands Drive, Walton-on-Thames, Surrey. o.82

"LAZENBEE" Prolific Italian Queens.—Fertile, 10s.; virgin, 5s.—YOUNG, 100, Elms Apiary, Central Road, Sudbury, Middlesex. p.87

IMMEDIATE DELIVERY. — Pure Italian 4-framed Nuclei, full of brood and bees, young healthy Queen, cash 57s., carriage paid; box 7s., returnable.—J. CLARKE, Bee-keeper, Mill Road, Marlpool, Heanor, Derbys. p.90

LT.-COL. C. WEAVER PRICE, O.B.E., M.C., has awarded the Bozzalla Nucleus offered in our advert. of April 14 to A. Wood Smith, West Castle Road, Edinburgh. We wish to thank the judge for his careful consideration of the many suggestions which came in.—SMITH, Cambridge. p.62

ITALIAN NUCLEI, 4 frames, £2 5s., May-June, healthy, carriage paid; cash with orders.—ATKINS, West Grove, Walton-on-Thames. r.p.68

ANY 3-framed Nuclei ordered now for delivery between May 23 and June 15 will be supplied at the reduced price of 45s. Satisfaction guaranteed.—N. WILKINSON, The Old Rectory Apiary, Farnham, Saxmundham. r.p.69

ITALIAN QUEENS.—Mr. Robson, Wooler, writes 28/4/21: "I have had many Italian Queens, but none to compare with yours for this locality." See last week's advt. Delivery early June.—ELLIOTT, Ipswich. p.28

Fertile Italian Queens. May 10/6. Satisfaction guaranteed. PEARSON & GALE, Marlborough.

HIVES and all you require for Bee-keeping. Immediate despatch. Write for list. A few spare Swarms, Holmewood strain, Dutch, Dutch-Italian. Price on application.—L. ANDREWS & CO., Hive Works, Westgate, Peterboro'. 'Phone: Peterboro' 381. r.p.73

1921 PURE FERTILE ITALIAN QUEENS, guaranteed direct from Penna. Regular supplies throughout the season commencing May 7. These genuine Italian Queens need no recommendation. Price, 13s. 6d.; selected, 15s.—GOODARE, New Cross, Wednesfield. r.p.35

START RIGHT! Keep right! Avoid "Wight"!—ALF. RYALL'S advice tells you how. r.o.144

ALF. RYALL sells Bees. Stamp for prices.

"WIGHT" DISEASE.—Prevention and removal. Invaluable advice, 5s. 6d. "An eye-opener."—ALF. RYALL, Whiteway Apiary, near Camp, Stroud. r.n.169

PURE Imported Carniolan Alpine Queens. List free.—B. WOODLEY, Thorne, near Doncaster. p.33

MAY DELIVERY.—From the Enrico Bozzalla Apiaries, Crevacuore, Italy. 3-frame Nuclei, British standard, £3 10s. each, carriage paid, boxes free, 1921 Queens.—S. H. SMITH, 30, Maid's Causeway, Cambridge. o.112

ITALIAN QUEENS, young, fertile, purely mated, disease free; safe arrival guaranteed. Price list on application.—GAETANO PIANA, Castel San Pietro, Emilia, Italy. r.l.83

ITALIAN QUEENS direct from Italy.—Address, ENRICO PENNA, Bologna, Italy. Price List for 1921 on application.

UNSURPASSED IN VALUE.—To popularise the new method of scientific bee-keeping, *Adminson's Semi-comb* is sold at almost cost price.—ADMINSON, LTD., Benson, Oxon. n.79

"THE BEE WORLD."—*The "winged" paper that circulates. It is read, re-read, and treasured.* Will it not appeal to you? Specimen copy post free.—Publishers: THE APIS CLUB, Benson, Oxon. r.o.36

ADMINSON'S SEMI-COMB.—The latest achievement of scientific bee-keeping and modern engineering. In British standard, 16 in. x 10 in., and shallow sizes, the last with drone cells. Try it for the production of extracted heather honey.—ADMINSON, LTD., Benson, Oxon. r.m.119

EXCEPTIONAL OFFER.—*Adminson's Breeder Hive*, fitted with ten standard aluminium semi-combs, costs £4 2s., carriage forward. Worth double this price.—For Adminson's Hives and Appliances write to JAMES LEE & SON, LTD., Uxbridge. r.n.23

STRICTLY BUSINESS.—A Japanned Sprayer, 6s.; one dozen Flavine Powders, 1s.; "Let the Bees Tell You," 2s. 6d.; all post paid.—S. H SMITH, 30, Maid's Causeway, Cambridge. o.113

TESTED QUEENS from June 15. One for 10s., three for 28s. 6d., five for 47s. Pay half now and save 5 per cent.—BEE SUPPLIES & PRODUCTS ASSOCIATION, LTD., 39, Wandle Road, S.W.17. r.o.85

ITALIAN HYBRIDS.—Nuclei, 3-6 frames, from £2 2s., carriage paid; delivery early June; rellable strain; no disease.—HOSEGOOD, 26, Purley Park Road, Purley, Surrey. r.o.25

THE MOTHER QUEEN IS THE LIFE CENTRE OF THE COLONY.—No Apiarist worthy of the name would consider a commanding price too high for a first-class *Queen*.—ADMINSON, LTD., Benson, Oxon. r.o.33

"THE APIS CLUB."—If you have a live interest in bee culture as a science and a craft, you should join THE APIS CLUB. Membership fee, 10s. 6d. per annum, and includes the free delivery of "THE BEE WORLD" as published.—For advantages of membership write to the Secretary, THE APIS CLUB, Benson, Oxon. r.o.37

GOLDEN PROLIFIC ITALIANS give the greatest pleasure and profit throughout the season—the highest satisfaction early spring.—Particulars, E. COOMBER, Breeder, 64, Ronald Park Avenue, Westcliff-on-Sea. p.43

ITALIAN QUEENS, home bred, hardy, prolific strain, end of May-June, 12s.; July, 10s.; Virgins, 5s.—MISSES PALING & PILLANS, Golden Square, Henfield, Sussex. r.p.67

1921 PURE CARNIOLAN QUEENS.—Whether home-bred or imported, our Carniolan Queens are derived from Jan Strgar's famous Alpine strain, for which we have the *Sole Agency* in the United Kingdom. Price (from June onwards), 17s. 6d. per Queen; safe delivery guaranteed. A decidedly modest outlay on an investment which more than repays.—ADMINSON, LTD., Benson, Oxon. r.n.54

¶ Readers of the JOURNAL and RECORD may order at the advertised prices through our Office at

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Adminson's Aluminium Semi-comb

Undoubtedly the best Metal Comb ever produced.

¶ In view of the extent of demand for the coming season, it is highly advisable that orders should be placed with a minimum of delay.

¶ Exhibition specimen available at B.B.K.A. Museum.

HIGHLAND SHOW

HIGHLAND AND AGRICULTURAL SOCIETY.

Stirling Show, July 26-29.

EXHIBITION OF BEE APPLIANCES AND HONEY.

£53 in prizes—Entries close 9th June. Entry forms from JOHN STIRTON, Secretary, 3, George IV. Bridge, Edinburgh.

Fertile Italian Queens. May 10/6. Satisfaction guaranteed. PEARSON & GALE, Marlborough.

ENSURE a good honey crop this year by purchasing our noted 6-frame Italian Stocks. Catalogue free on application.—PEARSON & GALE, Marlborough. r.n.173

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GORDON ROWE, 28a, Moy Road, Cardiff. SELLS CALIFORNIAN AND COLONIAL HONIES, carriage paid, tins and cases free, and pure Beeswax. Buys home-produced Run Honey, Sections, and Beeswax. All samples 1s. each. Terms, cash. Honey Parchments, stamped pure honey, 2 lbs., 14s.; 1 lb., 9s. 6d.; ½ lb., 7s. per 100; 500 lots carriage paid

DUTCH BEES.

¶ The first large edition of my literary brochure and illustrated catalogue describing these hardiest of all bees is nearly exhausted. It *will* interest you to have a copy if you have not already seen one. It is yours for the asking.

¶ Characteristics: Dutch bees are credited by all impartial critics with splendid prolificness, eminent suitability for comb honey production, and fitness for use with large hives; and, above all, their remarkable resistance to *Acarine disease*, as confirmed by recent research (see Dr. Rennie's Report, pp. 747-751).

¶ Supplies: (1) Skep colonies, with full combs, strong and guaranteed healthy. Each £4, carriage paid. *Immediate delivery.*

NOTE.—These are *not* small driven lots with half depth combs.

(2) Ten-comb stock in "Cumbernauld" hive, with excluder and crate of sections, £6 10s., carriage *forward*. *Immediate delivery.*

¶ References: "Those who fancy this variety cannot get them from a better source than 'Orme Lodge Apiary,' Mr. Whyte is Agent for the best known and largest bee-keeper in Holland, Hans Matthes."—The B.B.J., March 10, 1921.

"The championship of the Dutch bee, for which Mr. Whyte is known, receives an illuminating tribute in his catalogue, which is a literary and practical treatise on this hardy race of bees."—The *Bee World*, April, 1921.

R. WHYTE, Orme Lodge Apiary, Cumbernauld, Dumbartonshire.

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1921 SEASON.

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1922 SEASON.

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More Legislation?

We have in previous issues of THE BRITISH BEE JOURNAL said that those who are opposing the Bee Disease Bill under the shibboleth of "We are totally opposed to the Bill in its present form," are actually opposing legislation in any form. Recent articles in a well-known daily paper cause us to think we may be mistaken. The opponents of the Bill are not totally opposed to legislation, but *that legislation must be designed to serve their own selfish ends.* We cannot do better than quote the whole of the last paragraph of one article that sums up the matter precisely. We give it with the heading as printed:—

SCILLY STOCK.

"This is my scheme. There is only one uncontaminated source—the Scilly Isles. The idea is to breed bees in these islands—I have already made a beginning—as the nucleus for new stock here. I want the Ministry of Agriculture to assist me to clear the whole of the Isle of Wight in the autumn of the present stocks of bees, and also a strip of the mainland. The hives could then be thoroughly disinfected, and next spring they would receive from the Scilly Isles the nucleus of a stock free from disease.

"Gradually we could sweep away all contaminated bees, and repopulate the country with the sound, hardy English breed from the Scilly Isles, a breed incomparably superior to the Dutch or the Italian. It is an experiment worth trying, and would bring the country millions of pounds directly and many millions indirectly.

"The 'Isle of Wight' disease in bees first became known about 1904."

Any bee-keeper who has had any experience of a disease infected area knows perfectly well that it is quite impossible to deal with some people by "peaceful persuasion." They refuse to treat their diseased stocks themselves, and will neither allow anyone else to treat them, sell, or exchange them for healthy colonies. Their attitude is that of one such cantankerous individual who had only one reply to all efforts to get her—yes, it was a "lady" bee-kee-owner of bees—to deal with her disease-infested apiary. "The bees are *mine*, and I shall do as I like with them." In the light of that knowledge does any sane person imagine it possible to clear a whole district such as the Isle of Wight and a strip of the mainland—whatever a strip may mean—without compulsory powers; in other words, "legislation." Nothing has been done or said by opponents of legislation that better shows the hypocrisy of their claim that their opposition is in the interests of bee-keepers generally, and not for their own selfish aims. What, judging from these articles, is the aim? Ostensibly to "bring the country millions of pounds directly, and many millions indirectly," really to clear the whole country of bees by piecemeal, and give one, or perhaps several persons the monopoly of supplying fresh stock from an isolated apiary. Instead of being headed "Scilly *Stock*," that paragraph should be headed "Scilly *Scheme*"; it would have been both correct and appropriate. We wonder how many of those millions of pounds it is anticipated would go into the pockets of the promoters should it materialise. We do not think such a scheme has the remotest chance of being adopted. The object is too patent for it to have the slightest chance on a voluntary basis, and would rouse the opposition of not just a few opportunists, but of the whole of the bee-keepers in the country, if an attempt was made to obtain legal power, to quote from another article, "to clear any given district of all diseased bees before stocking it with sound ones. *Not one of the infected bees must be allowed to remain.*" [The italics are ours.] The italicised sentence would be a splendid excuse if the scheme was tried and failed—as it certainly would—if one infected bee had been overlooked and allowed to remain—a remarkably easy thing to do. Those who have endeavoured to promote legislation have, by its opponents, been constantly and falsely accused of trying to create soft jobs for either themselves or their "pals"—whoever they may be. How does this "Scilly scheme" of endeavouring to create a corner in bees, and securing a monopoly of their supply, strike our readers?

There is another aspect of the question that must not be overlooked. It is generally admitted that in the South of England, at any rate, the "Isle of Wight" disease is on the wane, though it is still to be reckoned with. The point is this, what bees are the most likely to remain healthy, those and their descendants that have survived the wave of disease and are still healthy and are rapidly increasing, or those reared in an isolated place free from disease, and, therefore, with no opportunity of developing any resistance to it? That factor alone would condemn the scheme, for it would be *absolutely impossible* to eradicate all trace of disease in a district, and it is easy to foresee what would happen to

imported Scilly bees who did not know the meaning of disease. [Read carefully Mr. Pettipher's article on page 250.] One of the arguments often used by opponents of legislation, which would support this condemnation, is to the effect that until we know all about disease, its cause, prevention and cure, legislation is not desirable. A speaker at the conference in February, 1920, said: "I have had long experience of disease, and if I am unable to prevent disease, where are you to get inspectors with the best will in the world who can stop it? I suggest that, as our knowledge of the checking of disease is so elementary, if it is in existence at all, it would be far better for us to go very slowly with our active measures; that we had better find out how to do things first, and then do them." The speaker is the propounder of the "Scilly Scheme."

Anti-legislators do not appear to agree very well as to the incidence of disease. In one of the articles mentioned we are told of the British bee-keeping industry: "At present it is threatened with disaster, owing to the prevalence of disease among bees." Exactly a week earlier, in another well-known daily paper, another "anti" states: "People who have lost their bees and wish to make a fresh start need have little fear of 'Isle of Wight" disease, which has almost disappeared." Both statements are probably made to serve their own ends; both are wrong. The truth of the matter is between the two. The industry is improving, and, while the disease is still a matter of great anxiety to many bee-keepers, it is not so bad as it was.

The Metal Comb in Practice.

A valuable series of practical illustrated articles on the profitable use of metal combs are appearing in the *Bee World*, copies of which may be obtained regularly from our office at 9d. each (hand delivery), or 10½d., post free. We may be able in future to give some extracts, but no reader who wants to make the best out of this appliance can afford to save a few pence. Any of the excellent original articles contributed to our contemporary by distinguished bee-keepers in the United Kingdom and abroad is worth more than the trivial cost of a number to any live bee-keeper, whether professional or amateur, experienced or beginner. The time for spasmodic reading and intermittent bee-keeping is over, and the advancement of bee-keeping in this country is now admitted to be bound up with *educating the average bee-keeper and supporting the bee-keeping literature.* This is a reminder to those who have not yet availed themselves of our Clubbing offer, and are still outside our regular subscribers.

A Dorset Yarn.

Two large sheets of interesting matter from far-off Queensland. The bee-keeper writes of "this year's crop of 30 tons"; he has 100 stocks, his wife 300, and the cabled price to him from London is 5d. per lb. His best colonies gave him 300 to 330 lb. of extracted honey. He does no sections, as the markets are too far away. Truly, this is a country for honey!

He writes: "It all depends on the rains; in an extremely dry season the crop is light." It is nearly three years since this gentleman was at his farm; he was one of the gallant sons of Australia who came over to France to fight against the German armies. He gave me an epitome of his life when staying here. Two chums took a holding, starting on their own. The war came, and they cast lots which of the two should go; the lot fell to his chum, who left his share in the farm to his sister (who kept house for the two), and left with the first lot from Australia. On the bad news from the seat of war and the death of his chum in action, he decided to offer himself for the Motherland. The girl carried on the farm, both men away. Now he writes he has married his chum's sister, and has bought a Ford motor lorry. He deserves to do well; one cannot but think what a fine character the girl was to carry on all that time, with brother killed and her lover away.

It has been an exciting week ending May 28. We have some large colonies with three racks on top (we want some sections for the four-day show in Bournemouth), and the fear of them swarming is with us all day, and we cannot help but dream of them at night. We do all we can to prevent it. We have given them a floor-board with a double entrance into the brood stock from below, and have placed a strip between the lifts so that the cool air should blow in on the crowds of bees that had congregated round the brood box. With all but one we have succeeded; this one sent out a huge swarm on Saturday afternoon, and while they were having their mad frolic the rain came down in torrents. Such a sight I have never before seen; the tops of the hives were covered with heaps of bees, some hung on the sides of hives (these did not suffer), but those that got down near the entrance were killed off in hundreds, and this (Sunday) morning the dead crowds are on most of the alighting boards (nearly all mine are wide and level). After the storm I moved open some of the clusters, but could not find a queen, but it sent them all flying about again, and they eventually went back to their own hive. The heaps that were on the tops of hives seemed to come to life again when the sun shone out hot, and these again went back, but those that tried to get in other hives all went under. This is a calamity, as this hive had a rack of standard bars, none of them capped over. I had put an excluder between the two, so as to have the bars good for exhibition. Had I not done this I am inclined to think this calamity would not have happened.

The last few days being cold has been in my favour with the others; the clusters of bees inside the outer case could not stay there all night with cold winds blowing through the cavity made by lifting up the lifts. One of them is a good built hive, which I bought. This has no free way round the brood box; the bees were out on the front with scarcely room for any to go in or out. I gave them a box of sections, making three, drove them off inside with a little smoke, got the Izal cloth, and well moistened the front up under the rain-board, and each side of the alighting board—several times was this done. I cannot say if it was this strong smell of disinfectant, or the extra room above, or the cold nights of these last three days, but the swarming fever is over in these hives, for a time at least, as long as they give these early exhibition goods, then they can do as they like; they can swarm, and after this huge mass has left the hive we will unload it, and see into the interior; we can take out the queen cells and stop other swarming. All the stocks seem to be very active just now: some breed faster than others. It is not the yellowest bees that have given the most goods, but the hybrids are the best workers at present.—J. J. KETTLE.

Jottings from Huntingdonshire

"First the blade and then the ear and then the full corn in the ear." Fields of wheat and oats are in flower, therefore if the saying, "When thou first see'st an ear of wheat number seven weeks and then cometh the harvest," be true, harvest will be early this year. But this, like so many things in this country, depends on the weather. One fears that we shall have a set-back in June or July. In any case, this prolonged drought will check the honey flow if it continues for another fortnight. At the time of writing nectar abounds, and much will evaporate for want of bees. Fields of trefoil yielding many stones of nectar daily are not visited by half enough bees. The great premature rush of bloom must mean a temporary shortage ere long. Even the dewberries are in flower, and the brambles forming their buds. Those counties who have had rain should rejoice. Here the land is parched and cracked, and the grass is showing signs of becoming scorched. The trees with their roots deep down are unconscious of the shortage of moisture. In the distance one sees clouds and hears the rumble of thunder, and prays the storm may come this way, but it comes not. After all, a soft, steady rain will be far more welcome than a deluge, but either would be welcomed.

The bees have worked for all they are worth this week, and a lot of honey has been stored, which seems slow in ripening, unless the bees are too busy to seal it over. It would puzzle most experts to decide on the flavour. The flavour of bean flower is there and also the clover, and a touch of chestnut and pink May blossom is evident, while a careful sampling reveals a suggestion of borage and anchusa, and the candying of several cells full, shows that those cells have been filled exclusively from the charlock. Quite nice stuff this charlock honey, and there are still a few people about who order honey in sections, candied if possible. A solicitor of my acquaintance declares that nothing is so delicious as sections of candied honey. Tastes vary, and well it is they do. Some people cannot stomach honey from the limes, others think it the best of all honeys. Personally, I am very fond of nectar gathered from the fruit blossom; a neighbour of mine discards it as unworthy the name of honey. We are not all made alike, and true we expect the bees to know it. I passed an apiary the other day and noticed that the twelve hives were all of one pattern, all painted white, and set out as if in a shop window. The whole lot seemed to be confined in a space of about 30 square yards, facing east, south-east, south, south-west, and west. I wondered what a young queen would do just back from her mating flight in such a cramped apiary of hives of one shape and colour. Invariably the first remark made to me by visitors is, "I see you have different types of hives, and I'm surprised you haven't them all one colour." Why should one have hives, all white or all cream or all blue? The great thing that matters is that the insides are in order. Outside colour does not matter to the bees, providing black is absent. I have a black hive, but as a curio; its a century old or thereabouts, and was possibly one of the first amateur hives made to hold frames. Presumably it was periodically tarred, so guess how warm it would be inside on a broiling day. The great advantage of white is that it reflects the sun's rays, and therefore is cooler in summer than a hive of a darker colour. Yet if bees had their choice—by which I mean, if a number of empty hives were placed in a row painted, say, white, blue, stone, green and brown, and a swarm wished to take possession—the blue or the green would be the one chosen. Strangely enough, a yellow hive has a curious effect of attracting robbing bees. I wonder if Nature's way of always keeping yellow flowers in bloom has anything to do with this?

Anent my recent remarks that the ash was out before the oak this year. Several correspondents, as far apart as Yorkshire and Somerset, Cornwall and Westmoreland, have written me to say in their counties it was not so. I wonder what these good people mean by "out"? The great thing to watch is the flower, and here the ash flowered a week or two before the oak. It is quite possible for the ash to flower well before the oak and yet be beaten by the oak in foliation. It should be remembered that the oak shoots forth young leaves as it flowers. Ash flowers appear and die before any leafage appears. Another Cornish bee-keeper asks me to say in the "B.B.J." for the benefit of many, why swallows are so scarce this year. A difficult question, since hereabouts I note more swallows than usual, and yet, so far, have not seen a swift. Since swallows,

house martins, and swifts usually return to their own haunts, that they should occasionally discard this rule is one of the mysteries of Nature. More puzzling than that, the whitebeam and rowan should have this spring flowered out of time, or that bees should—as they are sometimes known to do—decamp from their hives, leaving brood to perish.—E. F. HEMMING, Steeple Gidding.

Norwich Notes and Notions.

My opinion is that legislation for the benefit of earnest bee-keepers should be confined to about one or two clauses, viz. :—That any person wilfully exposing any diseased combs after being cautioned should be made liable. Also all honey sold ought by law be labelled with name of producer, this would prevent fraud. The other savours of red tape officialism. The fault of all present-day legislation is that there are too many disturbing elements about them.

A few years ago a reverend gentleman lost his bees by disease; the hives and combs were put away in the stable. Two years ago a stray swarm came along; the gardener put the swarm in one of the hives with a few of the old combs. The stock wintered well and swarmed last summer. The entrance was left full open this winter. I had a look at them last week, and strong and stingy they were.

Another parson I know, his hives are one mass of wax moth, yet his bees survive. Another stock I know have stood alone for six years with disease around, and yet they hold their own. The reason I give is because they are exceptionally vigorous. Surely, these are the bees to get stocks from; also, why are not A1 bees from a diseased district better than C3 soft imported?

Cheshire states that the Carniolan Alpine bee makes a larger cell; a queen, as everyone knows, is reared in a large cell, the reason for being larger with more vitality [*sic*]. As Carniolans are larger than Italians it is logic then for this race of bee to be stronger; if they are larger, stronger and more hardy, prolific, build white combs, providing they do not swarm as Dutch do, then why not encourage this race of bee?

A warm, dry situation will favour imported Italians, and for commercial men they are easy to handle. In a windy, cold, damp place, Italians spell failure; the raw damp of November and December is the reason of so many winter losses. A Carniolan, I should say, would winter best under these conditions; a too warm sheltered spot would keep them active most of the winter. One's district or local conditions should be surveyed before deciding on the breed or race of bee.

I have an Italian strain that no importer will touch. Anything that is a bee should not be one's aim. There is not one queen in fifty that comes up to my wishes. Aim for the A1. A queen must stand the test, not be a pampered one, then one's stocks can stand a shock, and with due care and attention they will not disappoint the owner.—A. TROWSE, Eade Road, Norwich.

Besides Honey.

By "TRENT."

(*Continued from page* 236.)

II.

Humour may not always be with the bees alone, for there are incidents which occur from time to time in connection with the keeping of bees which give rise to mirth, or at least a quiet smile, for the bee-keeper or his friends. The absconding swarm is a great joke, but when one is foolish enough to have onlookers present when about to hive a swarm which had previously been located, got into a skep and nicely shaded with an umbrella, a hive prepared, and all the usual paraphernalia, only to find, after a short absence, they had decamped, and to the great amusement of the onlookers fails to discover a solitary bee of the swarm remaining, the joke is doubly at his expense.

Referring to swarms, a successful, though not modern, bee-keeper of a neighbouring county has some quaint notions respecting some of the peculiarities of the swarm; for instance, he insists that for a successful hiving a sheet, tablecloth, or anything which is white and clean, is the great essential for covering the hiving board which the bees are to ascend into the hive. He reasons that often the queen accompanying the swarm is a virgin who is also on her marriage flight, white is an emblem closely associated with brides, and the queen, in an ecstasy of delight on finding the threshold of her new home paved with this favourite colour, quickly ascends its portals, and is followed by her numerous retinue!

Some queens are very perverse and wilful. One young lady I possessed two summers ago gave me an exciting time one afternoon. When the quilt was lifted from her hive, she commenced parading on top of the frames quite unescorted, and in trying to persuade her to descend again, she promptly took wing, and for a few moments kept me the terrified centre of a series of varying revolutions. Fortunately I refrained from impeding her frolics, and when she had exerted her royal self sufficiently, she quietly alighted in the same place, and, to my great relief (for she had cost me half-a-guinea), was quickly covered up.

Whether the following incident should be recounted as "Pride goeth before a fall," or "He who laughs last, laughs best," I leave the gentle reader to judge for himself.

Whilst staying with a relative, he sold a stock of bees to the local chemist, who was wishing to re-stock his empty hives after being wiped out with (dare I say it?) "Acarine" the previous year, and, of course, I had to be in at the removal to the chemist's garden, which took place about an hour before sunset. Imagine our astonishment when finding he (the chemist) had prepared a hive to receive the combs of bees, etc., and that he meant to transfer them immediately on arrival; our advice against this, and hints as to what was likely to happen, were of no avail, for my relative was quite willing and anxious to loan his hive for a few days until the bees had settled down to their new position.

On arrival at the garden we found several spectators who had been invited to watch the proceedings.

Now the hive of eight or nine frames of comb had been very steadily carried, but there was an ever-increasing hum to be heard from the inside, and when the chemist took off his coat and rolled his sleeves up. I trembled at the thought of what was to come. Luckily we had veils with us, and I shamefacedly got into mine, as well as putting on a pair of gloves and trouser-clips, to the amusement of the spectators, in contrast with the chemist's bare arms. However, the amusement was soon dispelled, for the amused ones quickly stampeded to a safe distance, leaving only the manipulators on the scene. The vicious temper of those panic-stricken bees can well be imagined, but those two men were bricks. I never saw anyone receive sting after sting so stoically as they, but half way through the performance the chemist called for his veil, and as his wife adjusted it some yards away, one vicious little beggar took a violent fancy to her. She fought it until it took ambush in her hair; her hat was off in no time, and I was called to hunt it out.

But, alas! my fingers were ever clumsy, and, quite inadvertently, I had deranged some of the hairpins, and part of the poor lady's hair fell down, and (Oh!) part came away in my clumsy fist! and, withal, the little demon discovered the scalp—and sat on it!

Somebody quickly brought some ammonia, and I, apologetically trying to retrieve my stupid action, applied the ammonia to soothe the wound, but only made things worse, for the wretched stuff began to lather like a barber's dry shampoo solution.

It was a few minutes later, after all was finished and when I was laughingly applauding my foresight in protecting my bare flesh, that I received the stab on an ankle which made me limp the next few days with a slipper on one foot.

(To be continued.)

Introduction of Virgins.

Just now when the queen rearing season is about to commence, a few of my experiences may perhaps be the means of the beginner making a successful introduction, which otherwise might be a failure.

The best method of introduction of virgin queens, and the making of nuclei, one that I have not had a single failure with, is :—

Take three combs with sealed brood and honey and adhering bees, making sure the queen is not on them (the presence of eggs or small larvæ is not desirable), put them in your nucleus hive, and confine them for four to five hours, then give the sides of hive one or two sharp raps, lift up quilt and drop virgin in amongst the bees. You may open the entrance of hive just after dark, during confinement of bees, make allowance for plenty of air. This is quite an old method, but an excellent one.

Probably the part where the most trouble is experienced will be the introduction of the virgin to a nucleus immediately after the removal of the fertile queen. Do not use the pipe cover cage in this case, as you disturb the bees to liberate the virgin, but when you remove the fertile queen place the virgin in an introducing cage, and let it release her about 36 hours afterwards, when she will generally be accepted.

Should you require to introduce an Italian queen (virgin or fertile) to Dutch bees, it is as well to take the precaution of placing the introduction cage on its side, and not as in the ordinary way with wire downwards, as they are given to stinging the queen through the wire.

Sometimes during the manipulation of nucleus the virgin will fly off the comb as you lift it out. Of course, if she has had a flight from the hive she will come back through the entrance, but if she has not you must stand and hold comb in same position as when she left, and in a few minutes she will come back and alight on the comb when she can be put back.

In conclusion, I should say that a virgin only a few hours old can nearly always be introduced successfully by just dropping her in any queenless stock or nucleus, the older the virgin the more difficult does introduction become.

Hoping these few remarks may be of service to those who were not aware of them, and tolerated by those who knew them.—K. YOUNG, Sudbury, Middlesex.

Requeening and "Isle of Wight" Disease.

Mr. J. M. Ellis in his article in your issue of March 10, furnishes us with an example of loose thinking to which many bee-keepers are prone.

Two stocks, which last year showed signs of disease in the spring, were united, and later divided, and each colony given a young, fertile Italian queen. "The new queens," he says, "soon cleared out all trace of disease. The moral is that no sensible person should heed the familiar advice to destroy 'Isle of Wight' disease affected colonies."

Mr. Ellis does not tell us in what way the new queens "cleared out all trace of disease." In my opinion it is utterly impossible for a queen to do anything of the kind.

The probability is that the two disease-affectd colonies were suffering from *Nosema apis*. In such cases the disease is masked by the prolificness of the queen and by the prevalence of fine weather. Sooner or later colonies die in apiaries in which this disease exists. I know an apiary in which four years were required to destroy every colony. When the disease was first noticed there were three stocks, which in the fourth season had increased to ten or thirteen.

No doctoring, feeding or re-queening was done by the owner. With the exception of hiving swarms and placing them on sheets of foundation, the bees were left to Nature.

During the first two years the apiary was very profitable; but in the third and fourth

years there was no profit at all. The owner was anxious to see what happened, but had he "managed" these bees he could have kept his bee-keeping going longer. Had the bees in his apiary been suffering from acarine disease there is no doubt that they would have succumbed much earlier.

A distinction must be drawn between microsporidiosis and acarine disease. They are distinct diseases and take different courses. What power has a queen to clear out either disease? If a stock is given a more prolific queen the balance between the births and deaths is increased, but at the same time the parasites are provided with additional hosts, and in the end the stocks will perish, whatever may be done. You can keep a disease-infected house occupied by keeping up a continuous supply of fresh tenants; so you can keep an apiary stocked with bees if you provide fresh tenants in the shape of young, fertile queens. With acarine disease I fancy that nothing the bee-keeper can do will save a colony from destruction.

I hold that diseased stocks are unprofitable, and should be destroyed.

I am inclined to think that one of the instructions given by the Scottish Joint Committee on Research in Animal Nutrition for the Control of Acarine Disease, namely: "If the disease shows in summer during the honey flow (i) do everything to stimulate breeding, re-queen if thought desirable," is unsound. Suppose the re-queening be done in early June, will the work of the progeny of the new queen be worth the price of the new queen? The fresh bees will not be available for field work until the end of the first or second week in July.—SOUTH COUNTRY.

Immunity from "Isle of Wight" Disease.

The question of immunity from this scourge of the bee world is one which has vexed the minds of bee-keepers ever since the unfortunate Island of Wight was swept by the new disease which crossed to and also devastated the mainland. Bees have been imported from almost everywhere on earth in the hope of securing an immune bee, the argument usually being that because a certain disease does not exist in the place such-and-such a bee comes from that bee will be immune from that disease, which is as powerful an argument as to say that if a dog is sent from a "clean" district into a "rabies" infected district it will be immune from rabies. All the same a certain amount of good has been done by the importation of new blood, and the consequent decrease of in-breeding among bees. The greatest trouble we have to face is this: No one knows even yet the cause of the disease. This makes the path of the searcher for immunity more difficult.

The history of "Isle of Wight" disease among bees has been, one may say, written in newspaper headlines: "Bees swept away by—*Malignant Dysentery—Microsporidiosis—Nosema disease—Acarine disease*" being a few of the headlines which even a casual search back among the papers of the past few years will supply.

Every now and then has come an announcement that the cause of "Isle of Wight" disease has been discovered. Each time it has been greeted joyfully by worried bee-keepers, and the thought "*Now we shan't be long*" has energised us afresh. Dutifully we have sent samples of our suspected bees to each researcher to be examined for symptoms of the trouble located by that researcher, and have been downcast or pleased by the discovery or non-discovery, as the case might be, of that trouble in our bees.

Full credit should be given to the researches which have been made in the face of baffling conditions by our most skilled and expert bacteriologists at the cost of extreme care and patience. As a bee-keeper, however, I do wish that extreme caution should be exercised before any announcement of "discovery at last of the cause of 'Isle of Wight' disease," and so avoid the disappointment which a premature announcement causes.

I agree most heartily, for example, with the Rev. G. H. Hewison in his article in the BRITISH BEE JOURNAL of March 3, in which he regrets the paucity of information from Dr. Rennie, of Aberdeen, concerning his discovery of *Tarsonemus woodi* in the trachæ of diseased bees, and the reason why he draws the conclusion that this mite, the existence of which as a parasite on the bee was known before, is the cause of "Isle of Wight" disease. Personally, in the absence of more detailed information, I must withhold comment, while many bee-keepers who a short time ago ejaculated "*Microsporidiosis!*" now hurl "*Acarus!*" at one's head, while one reflects that in the future quite possibly they will receive a new slogan for every-day use.

[Since the above was written, Dr. Rennie's report has been published by Robert Grant & Son, 107, Princes Street, Edinburgh, and Williams & Norgate, 14, Henrietta Street, Covent Garden, W.C.2, price 9s. We would also point out that several species or varieties of mites have been found *on* the bee, but *Tarsonemus woodi* is found and breeds *in* the bee.—EDS.]

The real fact is that as things stand at present, the cause of the dread bee disease is still shrouded in mystery. This being so, how are we to combat or prevent it?

Most of us are familiar with Mr. H. G. Wells' imaginative book about the invasion of the earth by warlike Martians, equipped in every way more perfectly for warfare than the inhabitants of the earth, and potentially capable of devastating this planet by superior force. According to Mr. Wells these Martians were conquered, not by earth's inhabitants but by its diseases. Mars had for ages past been kept clear of all disease. The race of Martians had put disease back among a historical past. And, be it noted, by long freedom from the necessity of repelling the attacks of disease germs the race had lost the power to repel those germs when they did encounter them on the earth. Earth's inhabitants, inured for ages to the attacks of germs, finally stood by while the

all-conquering Martians perished. The moral of the book is clear : Resistance to disease is a matter of *natural virility,* which is of greater value than any possible protective measures.

Applying this moral to the world of bees, we have some ground at least to stand upon. The well-known fact that in many cases a diseased stock will recover at least temporarily on giving a new young queen is due to the fresh virility of the descendants of the new queen. Also it is known that the increase of vitality in a stock under the swarming impulse has enabled it to throw off the disease, possibly only to succumb later in the year.

The first point to consider is *how to measure the virility of a bee.* Success in honey gathering is an indication of virility certainly, but it is not sufficiently conclusive. Many a stock has given a splendid surplus only to be lost later on owing to infection from an outside source. Viciousness may or may not be an evidence of virility. Early and late flying is an indication, but here again much depends upon outside circumstances such as the strength of stock, warmth of hive, and so on.

After much consideration of the problem, I concluded to work upon an anatomical basis. Premising that virility depended upon power to absorb oxygen into the body, which is an agreed point in connection with human beings, I think, I determined to study the respiratory system of the bee. After carrying out a slow and long series of examinations of the respiratory organs of every kind of bee I could get hold of, and though the method, being highly delicate, has probably had many errors committed in its name, I have made some progress. I do not claim to have made a complete investigation : whole-time work would be required, which I cannot devote to it. My observations, however, led me to cross certain types of bee, which so far as I have progressed at present have given a bee with, I think, a larger trachæal and air-sac volume in proportion to its size than any other bee. Further research is, of course, required here. The point is that the bee I have produced so far, and which I have called the "Shrinewood" bee, is really quite reasonably immune from "Isle of Wight" disease. During the last five years I have carried out many experiments, of which the following tests are representative. The tests were generally made up away in the hills, in order to avoid trouble with my own and other apiaries in case of failure :—

Test 1.—A stock was wintered in a hive from which the bees had all died from disease. Old combs from the hive were alternated with the combs of the stock. Result : The bees wintered splendidly.

Test 2.—A queen with three combs of bees was put into a second diseased hive, and the hive put into a damp situation. The bees were slowly starved for a month to reduce the vitality to a minimum. Upon examination, finding no disease, I brought back what was left of them, gave them more bees and brood, and they made a splendid stock.

Test 3.—A stock was given an old "soap-box" hive, which I found in an old apiary—disease swept—to clean out, which they did with relish.

Test 4.—A stock was left all winter with only one thickness of calico quilting over the frames in place of the usual chaff cushion. No ill results followed.

In none of the above tests was there found any trace of "Isle of Wight" disease afterwards. While I was making the tests, a wave of disease practically wiped out the whole of the bees in this district, and so far as I could ascertain my apiary was the only one to escape absolutely untouched.

As a matter of interest I have tried tests No. 2 and 4 with stocks descended from imported Italian queens. They did not get "Isle of Wight" disease, but lost heart to such an extent that they refused to respond to any stimulus, and, finally, I united them to stocks of my own, who promptly threw them out as useless. And so they were. Imported pure Italians may have their good points, but I do not think much of their virility.

To sum up : "Isle of Wight" disease, in our present state of knowledge, is best attacked by improving the virility of our bees. The ascertaining of virility by microscopical examination may yet be improved upon. In my opinion it is a useful if delicate method. It is in the hope that a stimulus may be given to research along these lines that the above statement of results is made.—FRANK PETTIPHER, B.Sc., "Shrinewood," Dolgarrog, N. Wales.

British Bee-Keepers' Association.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, May 19, 1921.

Mr. T. W. Cowan presided, and there were also present : Messrs. A. Richards, E. D. Lowes, J. B. Lamb, G. J. Flashman, G. R. Alder, G. Bryden, F. W. Watts, and J. Herrod-Hempsall. Association Representatives : C. D. Burnet (Twickenham and Thames Valley) and E. G. Waldock (Surrey).

The minutes of the previous meeting were read and confirmed.

Letters of regret at inability to attend were read from Messrs. W. F. Reid, C. L. M. Eales and F. W. Harper.

The Secretary stated that although the Chairman might rule him out of order it would be interesting for the members to know that this day was the fifty-seventh anniversary of Mr. and Mrs. Cowan's marriage, and also that during that long period this was the first time they had been separated on the anniversary of that auspicious occasion. Mr. Cowan was then accorded a unanimous wish for many happy returns to Mrs. Cowan and himself, to which he replied in feeling terms.

Mr. W. M. Hill was elected a member of the Association, and the following Associations nominated representatives, all of whom

were accepted: Cheshire, Essex, Cardigan and District, and Hertfordshire.

The report of the Finance Committee was presented by Mr. Bryden, who stated that the payments into the bank for April amounted to £36. 2s. 3d., the bank balance on May 1 was £147. 7s.

Correspondence was read from the secretaries of the Scottish and Irish Bee-keepers' Associations *re* International Committee. The suggestion of Liverpool as a meeting place was agreed to, the date of the first meeting to be settled when travelling facilities became normal. Messrs. T. W. Cowan, J. B. Lamb and W. Herrod-Hempsall, with Mr. G. Bryden as reserve, were elected as the representatives of the British Bee-keepers' Association.

The following were elected a sub-committee to go into the matter of examinations, and report to the Council:—Messrs. W. F. Reid, A. Richards, W. H. Simms and G. Bryden.

The matter of examination fees was then considered. Mr. Richards proposed, Mr. E. D. Lowes seconded, and it was carried "That the fees for the preliminary examination remain as they are, and that those for Intermediate, Final and Honours be raised 50 per cent."

It was resolved to hold the autumn conversazione on Thursday, September 22, during the annual show at the Grocers' Exhibition instead of the Thursday in Dairy Show week.

Preliminary examinations were sanctioned in Glamorganshire, Cornwall and Suffolk.

Correspondence was read from Mr. F. M. Claridge, A. H. Hamshar and P. N. Lennard, and the Hon. Secretary was instructed to deal with same.

Next meeting of Council, June 16, 1921, at 23, Bedford Street, Strand, W.C.2.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

A Tyneside Bee Society.

[10452] It was with interest that I read in this week's JOURNAL the suggestion of Mr. Giles, of South Shields, *re* the inauguration of a Bee Society on Tyneside. It is a splendid suggestion, and I hope other Northern apiarists will give their views upon the subject, for I am sure sufficient bee-keepers reside within easy reach of Newcastle to at least form the nucleus of a good society.

Mr. Giles is quite correct when he states that the county associations are too distant for Northern apiarists to attend, and it was for this very reason that I decided not to become a member of the Durham Bee-keepers' Association. The associations of the two counties may object on the score of taking away their members, and a few of the Northern ones may become members. Say the area of the proposed society embraces all bee-keepers within a sixteen or twenty miles radius of Newcastle, a sufficient area would still be available for the existing associations to control. And Newcastle *is* the centre for everyone living within a line drawn from Blyth, and passing through Morpeth, Hexham, Consett, Shotley Bridge, Durham, to Sunderland.

Furthermore, I would humbly suggest that the Society be formed on lines similar to those of the Apis Club, and be carried on as a District Branch of that Club (see Notices: *Bee World*, June-September, 1920). "A modest beginning should not be a discouragement."

In his remarks about the preparation of bees to exploit the heather flow I can give him no information other than that of Mr. Simmins, of "White Star" fame, who recommends the re-queening with vigorous blood after ten days' queenlessness; brood-combs packed with brood; and, if possible, drawn-out section combs.

As to the most suitable hive, I am using for this year's migration a hive taking eight frames and double-walled, but constructed of three-eighths stuff on a three-quarter inch framing. I will supply the sizes at some future time. In conclusion, may I inform Mr. Giles that I convey my bees to Burn Hill (North-West Durham) by train, where the heather-clad moors are equally as fine as those of Long Framlington and its environs, and they are good.—JOHN BOUCH.

W.B.C. Ends.

[10453] Please allow me to say a word in reply to Mr. Atkinson's letter of April 28

I invented and registered this end, and the late Mr. W. B. Carr was so pleased with it that he asked me to call it the W.B.C At the first they were sold at 6d. doz., a reduction being made for quantities. So soon as the registration ran out they were made by a good few people, and price cut down, so it did not pay to compete. I have always made them, and several dealers have continued to buy from me at considerably more than similar ends were sold at.

The dies for three forms of this end, and three other tin ends, have been made by my own workmen, and I have used every endeavour to make them well. If any one dissatisfied with those they buy will send me two penny stamps I will send them one of ours.

Re fixing, all anyone need do is to bore a one-inch hole in a bench, just enter the end and push it in the hole.—W. MEADOWS

[Re the last paragraph, this does not overcome the difficulty of removing the ends, which the "H.N.W." fixer and remover does.—EDS.]

How the Wicked Deed was Done.

[10454] We began talking over the hedge. I was tired with digging and glad of a rest, and, when he began, "We used to keep bees when I was a boy." I was all attention. I knew vaguely that they "smothered" the bees with sulphur, but I had always wondered how they had made sulphur burn at the bottom of a hole in the ground with, apparently, no air supply. Now I was initiated into the mystery of the "sulphur-match." The brimstone was melted and run on to a piece of brown paper. Then two cleft sticks were taken and the paper lodged in the clefts after the manner of the banners carried in processions. The sticks were then stuck upright in the ground at the bottom of the hole, and the match set on fire. Two longer sticks were placed across the top of the hole to support the skep, which was quickly lifted off its stand in the evening when all the bees were inside, and placed over the burning sulphur. Sacks were then placed over the skep to keep in the fumes and the bees. Gradually the suffocating fumes rose between the combs, and the bees which had toiled for themselves and their master fell from the skep into the hole in the ground, and the skep could be carried into the house and pilfered with no fear of stings!

Had our forefathers, thinking only of getting their honey without being stung, really hit on the prevention of disease? Year after year in rotation all their skeps became disinfected by sulphur dioxide; surely we can learn from them without adopting their cruel habits!—I. H. JACKSON, Holmwood.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d. up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 8. at Ramsey.—Huntingdonshire Agricultural Show. Bee and Honey Department in charge of the Hunts Bee-keepers' Association. Open Classes for Honey (comb and extracted) and Wax. Prices, 10s., 5s. and 2s. 6d.—Schedules from Mr. F. Tunnington, Thrapston Road, Brampton, Hunts. **Entries close May 31.**

June 8 and 9, at Rochford.—Essex Agricultural Show. Bee and Honey Department in charge of Essex Bee-keepers' Association. Sixteen Classes, all but one open. Silver and Bronze Medal, and many prizes.—Schedules from G. R. Alder, Hon. Secretary, E.B.K.A., 7, Bulwer Road, Leytonstone, E.11.

June 15 and 16, 1921, at Burton-on-Trent.—Staffordshire Bee-keepers' Association Show in connection with the Staffs. Agricultural Society. Four Silver Medals and five Bronze Medals in Local Classes, one Silver Medal and one Bronze Medal in the Open Classes.—Schedules from W. Griffiths, Solway House, Silkmore, Stafford. **Entries close May 28.**

June 23, 1921, at Doncaster.—Open Classes for Honey and Wax.—Schedules from F. H. Chafer, 9, Market Place, Doncaster. **Entries close June 13.**

June 28 to July 2.—Derbyshire Bee-keepers' Association's Show in connection with the "Royal" at Derby. Open Classes, good cash prizes and gold medal offered.—Schedules, apply F. Meakin, 37, Pybus Street, Derby. **Entries close June 20.**

June 7 to 11, at Bournemouth.—Hampshire and Isle of Wight Bee-keepers' Association Show in connection with the Royal Counties Agricultural Society. Liberal prizes.—Schedule, apply Hon. Secretary, Endsleigh, Ashley, New Milton. **Entries close June 4.**

July 20, at Alexandra Recreation Ground, Surbiton.—Surrey B.K.A. Show. Twenty Classes. Two Challenge Trophies, ten Silver, and 15 Bronze Medals. Eight Open Classes.—For Schedules apply Hon. Sec., W. E. Hamlin, 43, Norbury Court Road, Norbury, S.W.16.

July 21, at Bath.—Somerset Bee-keepers' Association's Show in connection with the Larkhall Horticultural Society's Show. Several Open Classes.—Schedules apply Mrs. Wallace, 151, Newbridge Hill Bath. **Entries close July 16.**

July 20 and 21, 1921, at Cardiff.—Cardiff and County Horticultural Society's Show, Sophia Gardens, Cardiff. Bee section under the auspices of the Glamorgan Bee-keepers' Association. Open Classes.—Schedules to be obtained from the Hon. Secretary, Chas. F. Davies, 5, Borstal Avenue, Cardiff.

Saturday, July 30, and Monday, August 1, 1921, at Lichfield.—Lichfield Floral and Horticultural Society's Show. Bee and Honey Section under the auspices of the Staffs Bee-keepers' Association. All classes open.—Schedules may be obtained from the Hon. Secretary, A. H. Perrins, 30, Tamworth Street, Lichfield, Staffs.

August 20, 1921, at Ammanford.—Carmarthenshire B.K.A., in connection with Ammanford and District Horticultural Show. Silver and Bronze Medals for Members' Classes. Open Classes for Honey, Wax, etc. Good prizes.—Schedules from W. Comery, 15, New Road, Ammanford. **Entries close August 17.**

September 17 to 23.—British Bee-keepers' Association Annual Show at Grocers' Exhibition, Royal Agricultural Hall, Islington, London. Entries close September 5. Schedules from Hon. Sec., B.B.K.A., 23, Bedford Street, Strand, London, W.C.2.

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*** Will advertiser Box 27 kindly send us his full address soon as possible.

TWO grand Stocks of Bees for Sale, 8 and 10 frames, 1920 Queens, £3 and £4 respectively; travelling box 10s. extra, returnable.—HENRY, Smithfield, Egremont, Cumberland. q.2

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FIVE new W.B.C. Hives, dovetailed, painted, roof covered felt, complete with frames, etc., £2 10s. each.—CARROW, Manorbier, Pembrokeshire. q.5

HEALTHY ITALIAN STOCK on 8 frames, with autumn 1920 Penna Queen, £4 5s., carriage paid.—ATKINSON, Hatherley, Carshalton. q.8

EXCHANGE W.B.C. Hive, etc., for Swarm.—Box 32, 23, Bedford Street, Strand, London, W.C.2. q.11

SIX HIVES, W.B.C. measurements, flat, waterboard table roofs, floorboard, outer body and one lift, including 10 frames drawn-out combs in brood chamber, 25s. each; no "I.O.W." disease; also 12 W.B.C. Section Racks, with empty frames and dividers, 4s. 6d. each; postage 11d.; and other accessories.—Box 33, B.B.J. Office, 23, Bedford St., London, W.C.2. q.25

EXCHANGE FOR NUCLEI, Postcard Camera, Lancaster's, perfect condition, in canvas case.—WOODHEAD, Calow, Chesterfield. q.7

WANTED, Honey Extractor; good condition.—Apply, 15, Second Avenue, Enfield. q.6

ITALIAN HYBRID QUEENS.—Can spare several 1921 Queens, fertile 10s., virgins 6s. (sent registered post); no disease.—W. JACKSON, Certified Expert, B.B.K.A., Post Office, Bleasby, Notts. q.28

SHARE offered in old-established Bee and Queen Business, with ultimate purchase if desired; 20 per cent. guaranteed on not less than £1,000 brought in.—Box 29, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. r.p.104

A GOOD BARGAIN.—I will exchange a seven-room and Kitchen Villa, with hot and cold water, and over quarter an acre of garden in Dunoon, the Brighton of Scottish watering places, for a House of one or two rooms in Dorset and one acre of ground.—Apply, Box 30, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. p.110

FOR SALE, Blue Beveren Doe, Mayer's strain, 20s.—Box 31, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. r.p.126

FOR SALE, four good Stocks 1920 Swarms, £3 10s. each.—BRINKLOW, Hadley Wood. p.83

ITALIAN HYBRIDS, strong, healthy Stocks, immediate despatch. 90s.; with hive, 112s.; box, returnable, 10s.—REV. COOPER, 62, Park Hill, Carshalton. p.85

BEESWAX, pure, for Sale, 5 cwts., packed in ½-cwt. bags, £8 16s. per cwt. net, f.o.r. London.—Apply, Box 25, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. r.p.44

SPARE NEW HIVES, to super with standard frames (holds 22) or sections, oak legs, painted, 27s. 6d. each.—COX, 116, Addison Road, Kings Heath, Birmingham. r.p.55

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1921.—FOUR STOCKS OF BEES, headed with Italian Queens direct from Italy this week, £5 5s. each; also three Stocks with 1920 Queens, £4 4s.; Hives, 25s. extra; Nucleus with 1921 Italian Queen, £3 3s.—WIGGINS, The Bungalow, Norton Road, Wemberley. r.p.75

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

BEE-KEEPING.—Correspondence Course. Practical and theoretical study. Stamp.—MISS PALING, Golden Square, Henfield, Sussex. r.m.89

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THREE 4-FRAME ITALIAN NUCLEI with 1921 mated Queens, £2 10s. each; also two very powerful 10-frame Stocks, 1920 Queens, £4 each. The above are of excellent strain, great honey producers, healthy, quiet, and in first-class condition; immediate delivery; carriage paid.—A. H. BARTLETT, High Street, Crowthorne, Berks. q.24

HYBRID ITALIANS.—Two 6-frame Stocks, £3 each; new Hives, 30s.; Carniolans, few spare Nuclei June.—STRATTON, Barn Lane, Kings Heath, Birmingham. q.10

E. TORTORA, Bee Breeder, Ozzano, Emilia (Bologna), from 15th to the 30th June offers Queen Bees as a sample for 5s., carriage paid. Send for 1921 Catalogue. q.1

CAMES. ABBEY STRAIN ITALIAN BEES.—Three-frame Nuclei, 1921 Bozzalla Queens, £3, June delivery; box 10s. extra, returnable.—JOHN H. DOGGETT, Abbey Lodge, Cambridge. q.12

BALDWIN'S BEES.—Three-frame Nuclei, carriage paid, 35s.; Hybrid Queens, 8s. 6d.—THE APIARY, Bromley, Kent. q.13

3-FRAME NUCLEI, 50s., carriage paid; box 10s., returnable; immediate delivery.—TICKELL, below.

ITALIAN or Hybrid Virgin Queens, by return, 5s.—TICKELL, below.

FERTILE QUEENS, 12s.; few by return; book for later delivery.—JACK TICKELL, Westbourne Apiary, Bee Farm, Cheltenham. q.14

"STRICTLY BUSINESS." — Free samples Flavine-S; a Japanned Sprayer, 6s.; one dozen Flavine-S Powders, 1s.; "Let the Bees Tell You," 2s. 6d.; all post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.15

"SERVICE AND COURTESY."—These we can give you, but the ever-increasing postal rates necessitate our asking for stamped, addressed envelopes for answering questions.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.16

"I.O.W." DISEASE.—Send stamp for remedy circular. BOWEN. q.18

WIRE CLOTH EXCLUDERS, 18 in. square, 2s.; Syphon Drinking Fountains, 3s. 6d.; Syphon Syrup Feeders, 3s. 6d.; Swarm Catcher, great success, 3s. 6d.; all post extra.—BUCKINGHAM BROS., Warwick Road, Luton. q.9

ALL April Queen Bees were delivered on time. We slipped a little on May deliveries, but all orders will be filled before the end of month. June deliveries should be "according to plan."—SMITH, Cambridge. q.17

SWARMING SEASON!—Heavy or light Bee Goods.—Wire your orders to BOWEN. q.19

BOWEN'S 1921 CAGE ensures safe introduction. Ideal for fertile or virgin queens. Try one, 3s.—BOWEN. q.20

THE QUEEN PAR EXCELLENCE is the Golden Prolific Italian—no soft imported goldens tolerated. Booking rapidly, Queens and Nuclei.—E. COOMBER, Specialist Breeder, 64, Ronald Park Avenue, Westcliff-on-Sea. q.26

WE'VE HAD A S'WARM TIME.—Swarms of Bees, swarms of Bee-keepers; some, like the foolish virgins, were not properly equipped, and thereby lost their swarm. Moral: Hives first, swarms after.—Order at once from STEEL, West Ashling, Chichester. r.q.27

REAR YOUR OWN QUEENS. — Complete Outfits from 10s. 9d.; Cups, Carriers and Cages supplied; exactly as used in Cotswold Apiaries.—BOWEN, Queen Specialist, Coronation Road, Cheltenham. q.21

IMMEDIATE DELIVERY.—New Standard and Shallow Frames, wired and fitted, full sheets "Weed" foundation, and W.B.C. ends, 12s. 9d. per dozen, carriage free.—ASHLEY, Lincoln House, Teddington. q.22

CARNIOLANS.—Will correspondents kindly note my address for the active bee season to save postal delay—J. E. SWAFFIELD, Haselton, Glos. q.23

PURE Imported Carniolan Alpine Queens. List free.—B. WOODLEY, Thorne, near Doncaster. r.p.116

DAY-OLD ITALIAN QUEENS, an economical means of invigorating your stock. Reduction for quantities.—E. COOMBER, Westcliff. o.66

PURE ITALIAN QUEENS, fertile, bred in Devonshire, no blacks within miles, May, 12s.; June to August, 10s.; September, 8s.; Virgins half price; Nuclei, 3-frame 50s., 4-frame 63s., carriage paid. Send cash with order for Queens, or 10s. deposit for Nuclei. Special terms to members of the N.D.B.K.A.—TATTERSALL WILLIAMS, The Apiary, Braunton. r.p.71

STRAW Bee Hives and Straw Caps for supering. wholesale and retail. Prices on application.—LAWRENCE, Lilley, Luton, Beds. r.p.121

IMMEDIATE DELIVERY. — Italian Hybrids Stocks, 1921 fertile Queen, 8, 10 and 12 frames, £3 10s., £4, £4 10s.; covered with bees and full of brood; guaranteed free from disease; case 10s., returnable.—WEBB, 126, Balfour Road, Brighton. r.p.122

IMMEDIATE DELIVERY. — Italian Hybrids, disease-resisting and practically non-swarming strain, 1921 fertile tested Queens, Nuclei or Stocks, 3-20 frames, £1 1s. first frame, 10s. 6d. each additional frame, carriage paid; case 10s., returnable. 10 per cent. off 10 frames and upwards.—STARKEY, 55, Stafford Road, Brighton. r.p.123

28TH YEAR.—Finest 3-frame Nuclei, with pure 1921 Italian Queens bred from selected imported mother, 65s., carriage paid; 10s. refunded for box when returned; Fertile Queens, 10s. each, June delivery. Satisfaction guaranteed.—W. ROBERTS, The Thorne Apiaries, Ninfield, Battle, Sussex. r.p.70

BOUND TO CARRY ON.—Have put in an Oil Engine and can execute orders as usual. Send for Kat-a-log.—MEADOWS, Syston. p.127

TWO new necessary aids to successful bee-keeping: Our B.C.W. Board and Queen Rearing Outfit.—MEADOWS, Syston. p.127

"LAZENBEE" Prolific Italian Queens.—Fertile, 10s.; virgin, 5s.—YOUNG, 100, Elms Apiary, Central Road, Sudbury, Middlesex. p.87

ITALIAN NUCLEI, 4 frames, £2 5s., May-June, healthy, carriage paid; cash with orders.—ATKINS, West Grove, Walton-on-Thames. r.p.68

ITALIAN HYBRIDS, Stocks and Nuclei, perfect honey gatherers, fertile tested Queens, £1 1s. first frame, 10s. 6d. each additional, carriage paid; case 10s., returnable; immediate delivery.—STARKEY, Gorsley, near Newent, Glos. r.p.124

HIVES and all you require for Bee-keeping. Immediate despatch. Write for list. A few spare Swarms, Holmewood strain, Dutch, Dutch-Italian. Price on application.—L. ANDREWS & CO., Hive Works, Westgate, Peterboro'. 'Phone: Peterboro' 381. r.p.73

1921 PURE FERTILE ITALIAN QUEENS, guaranteed direct from Penna. Regular supplies throughout the season commencing May 7. These genuine Italian Queens need no recommendation. Price, 13s. 6d.; selected, 15s.—GOODARE, New Cross, Wednesfield. r.p.35

START RIGHT! Keep right! Avoid "Wight"!—ALF. RYALL'S advice tells you how. r.o.144

ALF. RYALL sells Bees. Stamp for prices.

"WIGHT" DISEASE.—Prevention and removal. Invaluable advice, 5s. 6d. "An eye-opener."—ALF. RYALL, Whiteway Apiary, near Camp, Stroud. r.n.163

ITALIAN QUEENS, young, fertile, purely mated, disease free; safe arrival guaranteed. Price list on application.—GAETANO PIANA, Castel San Pietro, Emilia, Italy. r.l.83

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The New Postal Rates.

The proposed new rates for the postage of printed matter, if brought into operation, will again penalise our papers by doubling the rate of postage and increasing the yearly postal subscription from 10s. 10d. to 13s. We trust better counsels will prevail, for it is quite probable these increased charges will not attain their object, and instead of increasing revenue will, like several other impositions, result in a loss.

We may also have to revise the terms of our clubbing offer with the *Bee World*, but that may be considered when the postal rates are finally settled. We shall know what has been decided before our next issue.

A Dorset Yarn.

Bees in Dorset are storing honey at a rapid rate. Ours have had a wonderful lot from the raspberries. Up till the second week in May we fed our colonies outside so as to help on early increase. I felt it was a wise step to take. Those that had partly filled sections all winter did not entirely empty them; now as we use the sections there are two shades of honey in them, and the blend is very pleasant to the taste. Some of it is heather, and this does not easily run out of the comb as does this season's gathered stores. Some of my best stocks are still filling surplus racks without swarming, all seem to be killing drones; the cold nights have a lot to do with this. It is plenty of food and moisture in April and early May that causes bees to increase their population ready for the honey flow. This is the first year I have been able to unload so many surplus racks up to week ending June 4. We were able to take off some very nice ones in May; racks of all new sections this last week. Some of them filled in ten or eleven days. All things seem to work for the best for bees this year; plenty of flowers everywhere, abundance of bees; honey as a sequence is harvested quickly. This surplus honey is of a very pleasing appearance, the cappings are unsoiled, very little propolis used on the sides, the glass covering keeps the tops fairly clear of this adhesive substance. The extracted honey (from standard combs, all this year's storing) is certainly the best ever bottled from the Violet Farm, as it is mostly gooseberries and raspberries. When extracted later it has such a mixture of taste all blended together, it is not so pleasing to the palate as this that is gathered in May from the raspberries; the taste is entirely different to the sample of 30 tons sent from Australia. It is clear, and when in small phospherine bottles looks like sparkling champagne, this I have seen at dinners of the wealthy, but have never tasted, but this honey of May harvesting looks very much like it. Of course, our bees get stores from so many flowers in May as well, but there seems to be none with a nasty taste. One rack of standard combs placed on a May 19 swarm had six combs drawn out in five days. The bee-keeper who does not give his bees enough working room certainly is not wise. Unless they have storing and breeding space they are absolutely sure to swarm, and they generally do this just when you have surplus racks nearly finished. With out-apiaries we find it better to divide the combs and make increase rather than risk the chance of swarming when one cannot be near them. Where we took away the reigning queen and three combs in an apiary a mile from the farm, my friend, Squire Tomlinson, came up on Friday, and we found queen cells on all combs but two. All were destroyed save two. He thinks they will swarm by leaving the two, but it has mostly been all right for honey production, particularly if plenty of supers are given at the same time. We do not mind the difficulty of unloading the supers to find the queen cells, it pays in the end to do it. If there are two on, when a queen excluder is over the brood nest, the super racks lift off easily from the zinc, an Izal cloth spread over the bars, and they can easily be taken out and examined; the excluder being placed on the bars in the same order as it was taken off, then the bee-way is clear for the bees to get freely through it to the supers. We have had to take out some that were finished in the racks on the hives to make up the number wanted—a cloth is better than the smoker for this. If you have two cloths it is better, as you can roll one back as you look for the perfect sections, and follow up with the other over the ones that have been gone through.

The best stocks have not swarmed, the cold air through the lifts at night and plenty of super room seems to have given them the stimulus for work rather than the mad frenzy of swarming and facing the hard, cold world without a home.

Visitors came from Ireland to the farm this last week, two from Southampton, one from Worcester, others from Dorset, to see the English blacks that were brought from the Isle of Purbeck. These have done well, two that were in Australian butter-boxes were placed on standard bars in early May. On June 1 they were taken off and given another hive with the full complement of standard bars. This was carried out at midday when so many were foraging for nectar in the fields; these all came back to the parent colony, but they only found part of their old home. The combs had abundance of brood and the greater part of the bees. This is a very old method of increase, but one that is reliable, as in May and June they soon draw out the combs, the queen can have ample room for depositing eggs, and the box itself will be filled with honey combs, which can be broken up and strained. The bees

from these newly-filled combs of brood will soon begin the sections with surplus honey.

I notice that the racks of 2-lb. sections are filled by the bees as quickly as the 1-lb. ones. They took to those that were filled with brood foundation much more readily than those that had the extra fine section sheets, the former having more wax at the base gave the bees less to do; these 2-lb. sections are larger. I suppose the bees like them better as they draw them out so quickly, it is like shallow bars, more room for the bees to work and get about.—J. J. KETTLE.

Jottings from Huntingdonshire

Amidst a riot of leaf and foliage the dog-roses bloom, their varying shades of pink and cream adding great beauty to the hedgerow. We see them everywhere, but to see them perfect one must go into the depth of the country wilds, where roads are few and houses fewer and the hedges grow high. Rambling above the hops and vetchlings, over brambles and hawthorns, the briars climb and trail their blooms in delicate wreaths, creating garlands in semi-arches to celebrate the wedding of summer to spring. I know one such place, not far from here, where these roses grow unhampered by the hedging knife. Did I reveal it I should be sneered at for my pains. So few would care to see it; so many would describe it as the last word in desolation. Yet the very place teems with life, though not of a human kind. A limpid streamlet curls its way within this Eden of the insect world, and one looks along its banks and sees these arching briars studded with pinky jewels reaching, it would seem, to infinity. Here bees of many species come and sip; butterflies, too, are happy in the wealth of scent and shade, and at midnight, when the moon is full, one can see moths of singular beauty flitting along this way. One feels one ought to take one's shoes from off the feet, or, like Linnæus, fall down in awe before the Creator of such wondrous beauty. What if some day the builder comes along and rears houses, rows of them, and obliterates it all? Towns make me sad. I walk along street after street and think of the long ago when dog-roses grew on these very spots. Hawthorn bushes full of birds stood where yon lamp-posts stand. The doorway to some great store was once the gateway to a field in which cattle grazed their fill and sheep grew their wool, while the lambkins skipped in the hedgerow banks or peeped through the gate at casual passers by. Yonder backyard was once a cottage garden where grew lavender and thyme, mignonette, and candy-tuft, phloxes and hollyhocks, and somebody's granny kept her bees on long stools in skeps covered with pots and pans to throw the rain. Rabbits burrowed where those basements are, while plovers wheeled and screamed overhead. Perhaps my friend out Croydon way, confined to a room overlooking a railway bank devoid of life, will be cheered by the reflection that once his dwelling was a garden or a meadow smothered with buttercups and marguerites. Now a little about the bees.

The week has been cooler and the rain scarce, and the drought is causing the honey flow to slacken. A swarm came out on Sunday, found the wind too cold and returned. On Monday it was out again, but still unable to settle; it went back. Later, when the sun got more power, it made a third attempt with fewer bees, and this time clustered on a lavender tree close to the ground, and scarcely waited to be shaken into the swarm box, so anxious were the bees to get housed. The honey storing has not been good. It will be difficult to get honey of exhibition standard in time for the Ramsey Show unless the next two days are ideal for the bees. The Italians keep busy, but not more so than the Holme-woods, which latter beat the former in section filling, while for purity and whiteness of wax the palm must go to the Dutch. I see a writer in the *Scotsman* blames the importation of foreign bees for the wholesale losses from disease. He claims that a result of the craze for bees from other countries is a mongrel bee very prone to acarine disease. There may be something in what he says, but he forgets if no importation went on the country would be almost devoid of bees. The British Black may some day come back to its own, but has not the mixing of Saxon, Danish, and Norman blood produced the stalwart British race?—E. F. HEMMING, Steeple Gidding.

Some Miscellaneous Thoughts.

(1) ON RETURNING TO CIVILISATION AND DEVASTATION.

Recently there has been a great war, which most readers will remember or have heard about. To me it would seem to be only a very indistinct and unpleasant dream, but that the fact of its having been is constantly being verified by the presence of margarine in my diet and the appalling jump in prices of bees and bee-goods. In those good old pre-war days I used to keep several hives of bees (which afforded me great pleasure and little profit), but having to make my exodus at a few hours' notice, my poor bees were left to an unkind fate just when they ought to have been going to the moors. I suppose I ought to have "told" them, but had not even time to visit them for a final look round, and I never saw them again. Apparently, to borrow an expression from "Bee Lover," they all "went West" (hence, perchance, America's intervention), and I gladly accepted an offer for the hives and whatever else remained, as money was very welcome in those days. Thus I lost everything but enthusiasm. I seldom saw a hive of bees, and for years never came in contact with any bee-keepers. But often, on long, lonely night watches, my mind was filled with thoughts apicultural; and sometimes, sitting for hours in a tiny hut with a smelly oil-stove, a telephone, and a glaring light, I kept myself awake by jotting down on sheets of cheap writing-paper notes on a system and a hive that I thought suited to my own locality. Luckily I kept these notes, and as I glance over them I am convinced that one was able to think matters out more

clearly in the perfect quietness and loneliness of those small hours than is possible now in one's leisure after a day's worry; and I still hope to experiment on the lines I then laid down. Amongst other things, I made out a very detailed estimate of the cost of re-starting, which caused me to smile (somewhat sadly) as I glanced at it the other day and compared the old prices with to-day's. However, I feel the lack of a hobby keenly, and must start in earnest this year. Last summer I found it almost painful to see hundreds of square miles of heather-smothered hills offering, perhaps, tons of glorious nectar to any who would gather it, and yet never a bee to garner these delectable riches. What is the absorbing topic of to-day All Fleet Street answers "waste." And would the Ministry of Agriculture really consider the few pounds *wasted* that would help anxious bee-keepers to reap such a harvest of liquid gold that at present merely returns to the vile dust from whence it came?

I think the suspension of *the* Bill a most unfortunate thing for beginners and re starters. It makes them doubt the soundness of their investment while many empty hives are dotted about a district—as they are here. Some owners quite frankly admit that their bees died of disease, and they felt too "fed up" to disinfect or even to remove combs. And who is to prevent them advertising their goods and selling them to the unsuspecting novice?

(2) On Writers and How to Use Them.

On my return home I was impressed by the lean and hungry looks worn by my old acquaintances, including the "B.B.J." Like one of your contributors to a recent number, I also missed many familiar names, particularly that of Mr. Crawshaw and (as someone else noticed) your Scottish bee-keeping writers. But I see the familiar "D. M. M." once again in your pages. If I remember rightly, he recently retired, and also, in the metaphoric sense, retired into his shell and sealed himself up, erroneously thinking the winter of his life had arrived. That position must have been all too cramped for him, and again he has been enticed out and cut him a new quill.

Probably many of the others have passed over Jordan to that Canaan of rest, while I suspect others have travelled farther west still and joined the Philistines. (That's rather good for me, but requires the use of an atlas to be fully appreciated.) Now, I'm not going to say that the "B.B.J." is going to the dogs, or that we don't get two penn'orth out of it; nor can I admit that we get three ha'p'orth of bees and one of horticulture and digressions. Please forgive my referring to this, Mr. Editor, but we can hardly have bees without honey, or honey without plants and their flowers. No branch of science is complete in itself, but rather embraces a little of every other branch, and had the policy of the "B.B.J." always been to cut out these kindred subjects, we should have been robbed of one of the most interesting and instructive articles ever published in its pages—viz., Mr. Hayes' series on Pollen Grains.

(To be continued.)

Early Impressions from South Wales.

The inclement season of 1920 was in itself a trying time to embark upon the enterprise of bee-keeping, but when to it is added the devastating effect of *Tarsonemus woodi*, the iron may well enter the soul of the novice. But the lure of the honey bee is persistent and the risk is taken.

The question uppermost is: How to obtain a stock which is immune? Shall it be Italian, Dutch, or a well-advertised guaranteed strain? They are none of them immune!

As a climax to various alternating proposals comes the information that a bee-keeper, who has passed the allotted span, finds that his infirmity so prevented his attention to the bees that his stocks were for sale. Here, within a radius of a few miles, the dreaded disease has been rampant. These stocks survived and are strong and virile. One stock I purchased, and on May 22 issued an early swarm.

Although not altogether unprepared, I certainly was compelled to make certain hasty provision for the new colony. The old hive had been sulphured and scrubbed with disinfectant, but the brood frames were not ready. Assisted by a friend, the foundation was fixed and the wire embedded.

The swarm, which, unfortunately had settled at a considerable height and at a distressing angle on a large apple tree, was eventually hived. The following day brought a demonstration of cause and effect. In the afternoon out came the swarm and settled on the same tree, again at a distressing height and angle. A glance at the hive and frames revealed the trouble. Three sheets of foundation had collapsed owing to defective attachment to bars. Evidently the queen and her family had sustained a severe shock. The damage was repaired and a general survey taken. At this moment the swarm leaves its position for a lower one in my neighbour's garden. As they settle there I notice a cluster of about 50 bees on the grass near my feet. These I proceed to coax on to a board, and as they move I observe, with surprise, the queen. At once I proceed to place her on the alighting board and straightway she moves into the hive. Almost before you could say "Jack Robinson" the hive becomes the centre of attraction for countless buzzing, swarming bees, all coming from the swarm in my neighbour's garden. The point which struck me was the flashlike rapidity of communication as between the queen's retinue and the swarm, presumably by signal. The point which you, Sir, would naturally observe is the necessity of painstaking work in completing frames and the undeserved luck of regaining the bees under the most easy and comfortable conditions.

Was the queen injured? I know not! But her fertility does not seem to be impaired and the bees are working well.

There is in the foregoing remarks an underlying suggestion that, in spite of modern inclination, we may be safer in choosing stocks which have resisted the dread visitation rather than be led to distant sources where

the powers of resistance have not been tested. Also, I am led to think by the course of the disease that the process of development is lengthy. Stocks known to me as emanating from the same source—directly and indirectly—have, some sooner, some later, all suffered extinction, although, meantime, contact was almost impossible. The original stock first disappeared, to be followed by the others months afterwards.

These are but the confessions and musings of an immature bee-keeper, but they are committed to paper in the hope that after all some germ of truth may be found therein.—S. R. H.

Besides Honey.

By "TRENT."

(*Continued from page* 236.)

III.

Some people may find humour in the following, but perhaps it would be better to note the moral as a lesson of what not to do, and a maxim for beginners, namely, when in doubt, either consult the guide book or an expert.

Recently a beginner's bees showed signs of crawling, and he was greatly concerned. His wife's uncle had kept bees years ago, and she remembered that when his bees were in a certain condition he would "stimulate" them by giving them a spoonful of port wine in their syrup. Being reminded of this, the beginner determined to give it a trial, but finding they had nothing in the stimulating line except brandy, decided that the one was as good as the other, and straightway prepared the syrup, adding the brandy to taste!

The bees were evidently short of stores, and commenced on the doctored syrup greedily.

In a few moments there was a great commotion. Crawlers came out of the hive in a state of intoxication, but those bees which could fly were in a fearful frenzy, dashing wildly into trees, walls, and especially into the bee-keeper himself, violently stinging him. There the humour ends, for, unfortunately, in his somewhat hasty departure, he spilt some of the syrup, and other bees in the neighbourhood caught the scent, and a great robbing orgy commenced, which lasted for days, leaving no live bees in his hive.

But, as a rule, the beginner has a lot of joys. His first hive of bees are like his childhood's first clockwork toy—a great source of wonderment—and if he be a real bee-keeper at heart, that interest never wanes. As much cannot be said of the beginner who expects that bee-keeping will quickly make his fortune.

The rheumatic cure by bee sting inoculation, though believed by a few, the majority of bee-keepers treat the fact, or fable, more or less incredulously. During a sojourn in a Gloucestershire village last summer the writer came across a worthy bee-keeper of the old school, who actually "practised" the cure on "patients" with good results, and his rendering of the "cure" on one in particular is highly interesting.

One of his village friends, a well-nourished old gentleman of some 15 stones in avoirdupois, was laid up with rheumatics, and the bee-keeper preached his formic acid doctrine so effectively that the invalid was finally persuaded, and allowed himself to be operated upon. A few bees were procured and brought to his bedside, and the patient, who could scarcely move a limb without an accompanying groan, was asked to point out the spot where the pain was most acute. To this a bee was introduced.

He was out of bed instantly, and, pacing quickly up and down the room, said rude things to the bee-keeper, quite forgetting his pains for the moment. It was the case of one pain killing another, but whether it was the bee stings (for he had fourteen altogether in a week) or not, the old man's pains quickly disappeared, and, apart from an occasional twinge, was apparently never better, for he has since set up the only hobby which will enable him to continue a self-treatment on similar lines.

Questions, &c., for Bee-Keepers for Self-Examination.

(Students are recommended to write their answers, and check them afterwards by reference to books.)

521. What are separators? How are they made and used?

522. When a swarm is put into a hive furnished with frames of foundation, how soon may young bees be flying?

523. What is the proof that bees gather pollen from one sort of flower only on a journey?

524. Give reasons for and against the use of drone foundation in shallow frames in supers

525. Should some of the cells in a comb be found to contain two or more eggs each, what is to be inferred?

526. Compare and contrast comb honey and extracted honey as merchantable commodities.

527. How should empty combs be sorted into classes, stored and cared for until they are again needed for use?

528. What plants and what insects secrete honey-dew? J. L. B.

Bee-Keepers' Association Formed at Chesterfield.

Arranged by that capable organiser, Mr. J. R. Bond, on behalf of the Derbyshire Education Committee, a lecture on "Bee-keeping" was given in the Market Hall, Chesterfield, on Saturday, May 21.

In introducing the lecturer, Mr. H. Hill, of Ockbrook, Mr. Bond explained that the primary object of the meeting was to form an Association for Chesterfield and district. It was very gratifying to him to see so many present.

Mr. Griffiths, of Clay Cross, was voted to the chair, but declining the honour owing to

partial deafness, Mr. W. E. Tate, of Brampton, was prevailed upon to act in this capacity.

After a most interesting lecture by Mr. Hill, who has been in charge of the re-stocking scheme for the county, it was decided to form a Bee-keepers' Association for Chesterfield and district, and the question of affiliating with the Derbyshire Association was left over. The following appointments were made :—President, Mr. J. Lindsay, Cutthorpe; vice-president, Mr. Griffin, Clay Cross; secretary, Mr. W. E. Tate, Brampton; committee, Messrs. I. E. Ashmore, Holymoorside, A. J. Bennett, Brampton, H. Bacon, Sutton Scarsdale, G. H. Martin, Newbold, J. J. Godber, Old Whittington, H. Brooks, Charles Jephson, Spital, E. Walker, Ashgate, Joseph Woodhead, Calow, Benj. Woodhead, Brimington, and G. H. Slator, Hasland, who were given power to add. The first meeting of the committee was fixed for June 1.—(*Communicated.*)

Manchester and District Bee-Keepers' Association.

On the invitation of two of our members who live over the Cheshire border, we paid our first apiarian visit of the season to Mr. Walton first, who sub-let us to Mr. Clegg, of Ashton-on-Mersey: thirty members and friends accepted the invitation. Rain interfered with the examination of these stocks; one in a W.B.C. hive with standard frames and a good stock was looked through; sufficient was seen to show that the season was beginning well; then a Conqueror hive, with Commercial frames, was opened, but a shower coming on cut the manipulation short. We adjourned to a friendly shelter, where many questions were asked and answered; especially were the pros and cons re the Conqueror hive—several of our members having tried it—as a non-swarming hive. The bees did not swarm so readily from it as from a smaller hive, but when they did swarm there was a huge exit.

A vote of thanks was given to Mr. Clegg, and we went on to Altrincham, where Mr. Kirkness showed us through his apiary. With the day in better mood, we could look through all his stocks; one was so strong that it was given a super. Honey and pollen were coming in; nectar and pollen-bearing flowers seemed to be in their heyday as we walked from one apiary to the other. One of the vice-presidents showed several heads of clover which he had gathered. We could see the bees busy on the raspberries and centuary, while the young fruit on the apple trees told us that the bees and the apple bloom had successfully worked together: bees coming into the hives covered with pollen on the thorax as well as on the pollen baskets led to an examination under the microscope. It was noticed that the bees were working different kinds of flowers, as there were three or more distinct colours of pollen being brought into the hives.

Mr. Davenhill occupied the chair at the subsequent meeting. A discussion on the advisability of taking the bees to the heather brought out the facts that at times the super will be filled and at others they come back empty. A stock in its prime usually gives a good account of itself, and with a good flow always does.

The secretary reported that the bees under their care at the Carrington Training Centre for disabled soldiers were doing well; that he gave a demonstration to a fresh lot of men, those who were there last year having completed their training.—J. WHITTAKER.

Beverley and District Bee-Keepers' Association.

Lecture by the Rev. G. H. Hewison at Beverley.

A very interesting and instructive lecture, illustrated by a large quantity of lantern slides, was given to the members and friends of the Beverley and District Bee-Keepers' Association by the Rev. G. H. Hewison, of Marr Vicarage, Doncaster, on May 26. The most valuable part of the lecture was that dealing with the recently-discovered acarus, the cause of "Isle-of-Wight" disease, of which the lecturer has made a special study. Though not a discoverer of this parasite, Mr. Hewison has done much to confirm and extend our knowledge of *Tarsonemus woodi* by his microscopic investigations, and his photo-micrographs showing the parasite in all stages of its development, from the egg to the larva, nymph and mature mite clogging the thoracic tracheæ was visual and convincing proof of the existence of this causation of the disease. The lecturer referred to several tests he is making to find a remedy, and is confident one will soon be found.—(*Communicated.*)

Novelties for 1921.

THE CAMBRIDGE FLOOR BOARD.

Messrs. E. H. Taylor, Ltd., have sent us the new floor board, an illustration of which appeared in their advertisement on our front page on April 21 and 28. It is a very ingenious contrivance, and, so far as we can judge without practical experience, should serve the purposes for which it is intended. We are pleased to note it is made of excellent wood of a substantial thickness, and without knot or blemish, a very great improvement on some of the material that was formerly turned out by this firm.

Mr. E. J. Burtt sent along a standard frame, wired and fitted with foundation, as a demonstration of his method of embedding wire in the foundation. We judge this is done by electricity, and while not new, as other firms have used this method for some years, it is very effective; in fact, the embedding is perfect, the wire being sunk well into the foundation without weakening it, as so often occurs when using the ordinary spur embedder.

Mr. Burtt has also sent us samples of the W.B.C. ends supplied by him. These are nicely finished and fit the top bars well and easily. We had no difficulty in getting them on and off with the fingers, but they would be better if made of stronger tin.

CORRESPONDENCE

W.B.C. Ends.

[10455] What is by no means negligible is preservation of the all-round efficiency of service of reasonably well-made W.B.C. ends. They never previously required any special device or provision to mount or detach, and the operations were not and should not be tied to a bench or a fixed apparatus of any kind. One used to be able to do all metal-ending with the fingers easily enough, either at the hive or away from it. That is efficiency and convenience, meeting all possibilities.

There can be no special appliance or device, of a fixed character especially, which can equal that, neither for convenience nor expedition.

Mr. Meadow's letter (10453) gives interesting details, and I have no doubt his productions give every satisfaction. But there are others who handle this line of goods without necessarily making them. It would surely be to their interests to see to the manufacturing end.

Since my criticisms were published I have been supplied with metal ends by Messrs. Taylor, Ltd., with which I am very well satisfied to equip hives for my clients, on whose behalf the subject was originally broached. I can manage a villainous metal end myself in short order, but the one principally concerned, the average bee-keeper, does not have workshops, benches, nor tools in variety to enable him to overcome the shortcomings of a production plant, the crux of the whole question.—M. ATKINSON, Fakenham. June 2, 1921.

Easy Way of Handling Swarms.

[10456] A large swarm issued ten days ago from a twelve-frame hive, clustering in an easy place. One or two shakes flopped it into the skep; it weighed 8 lbs., the first of the season. Eight days later a cast flew out, went up 80 ft., and disappeared. The 1st of June out came a second, which, with a garden squirt, I persuaded to cluster on a pergola. I had a clean hive filled with drawn-out combs and frames of foundation ready. I put it near the swarm, with an extra alighting board, then went with a soft housemaid's brush and swept the biggest lump into the skep, then placed the skep over the frames, and beat the sides. There was a roar and humming; the bees began to go down. I helped them by throwing some in front, and they all very soon were in, with a wired board and thin quilts to cool them. At night the entrance was closed, and hive taken to its proper stand, not far off. The reason I did not put them back in the same hive was they were killing off drones that were small, so how the young queen will get fertilised I am anxious to see. If all right, I will put her back, and put a cell in her place where the drones are. There are no cones on my hives; all ventilation holes backed with perforated zinc, which keeps wasps and moths away.

Frames are the wedge type. If the foundation is put in the large groove, and the wedge pushed in tight with the tool for that purpose, they are very strong, and prevent moths laying eggs on top or below.

Keep clean hives painted, fitted with combs, and ready. It is worth burning the old paint off. I find stone colour, with green plinths, to look well in a flower garden, if kept well apart to prevent robbing, and not herded like sheep in a pen.—CYRIL TREDCROFT.

Brotherhood : A Suggestion.

[10457] May I encroach on your valuable space with reference to Col. Kettlewell's article (10443) *re* "Brotherhood : A Suggestion" ? Surely this is a very excellent suggestion, and I was rather disappointed on reading the current number of the "Journal" to find that nobody has come forward to back the Colonel's suggestion, or otherwise. It seems to me a very excellent idea, particularly the badge. Should we not be able to know one another better, however strangers we might be, by the simple little badge? I feel sure all bee lovers would be pleased to wear the little emblem. Would it not mean more members to the various Associations? It should be made one of the conditions, no member, no badge, and incidentally would it not mean more readers of the "B.B.J."? I personally would like to see the gallant Colonel's suggestion come to fruition. What are your own views? Also what have Messrs. Kettle, E. F. Hemming, Flashman, Ellis, etc., to say about it? I should be interested to know.—ALFRED BARNES.

[We think the idea a good one, especially that of the badge, but do not altogether agree that it should be confined to members of Associations? However, we shall be pleased to have the views of other readers.—EDS.]

Vitality of Tarsonemus Woodi.

[10458] It is with the greatest interest I read the articles in THE BEE JOURNAL every week, especially the ones dealing with that most dreaded disease of the bee, Acarine disease. I feel sure we owe a great debt to the persons who are diligently searching after the cause and cure of so terrible an enemy of bee-keepers, and hope before long they will be successfully rewarded. I, like a great many more brother bee-keepers, suffered a great loss through it: in fact, I lost all my lot during last season. I am not altogether downhearted, as I mean to get a fresh start this time with Italians. By what I have seen of them, they seem to have a stronger constitution than our own native bee. Why that is so I cannot tell, but around this district that has proved to be so. I am not saying they are entirely im-

mune from disease, but at any rate they escaped, while all the natives went under. What I should like to know, and I dare say many others would also, is how do they get the disease? and where does it actually come from in the first beginning? We read of this cure, and the other cure, and I think I tried them all fairly, but with no good results, as I state I lost them all. It is proved beyond doubt that it is a germ that gets inside the bee. But where is it bred in the first place? and how long will it live apart from the bee itself? Do old combs carry the disease? That seems rather a question, as I have often read in THE BEE JOURNAL of people putting swarms on to combs that other bees have died on, and still they have gone on all right; but, of course, to me that seems a very risky job. I have quite a lot of combs newly drawn out, but they are all stowed away inside a place where it is impossible for any bee to get at them. I am going to thoroughly disinfect them; but at the same time if I thought there is any chance of any germs living after that I certainly should do away with them. That is why I ask the question. Can it be proved how long do the germs live after the bees are all gone?

Bee Stings.—I notice in the JOURNAL for May 12 (*re* 10447) how the correspondent suffered from bee stings. He has my sympathy. I know of a case quite similar to his; I have no doubt it is caused by the amount of poison injected by the bees, but I should like to say that the finest remedy I find for stings is to have a small bottle of petrol or methylated spirits in the waistcoat pocket, and apply a dose to the part stung immediately. I have tried it heaps of times, and it has never failed to ease the pain, and also stops the swelling.

I should like to add that I am fully in favour of legislation, and the sooner it becomes law the better, I think. I hope our Editors will pardon me if I have trespassed too much on their time and valuable space.—W. H. ALLEN.

[We are sorry we cannot at present answer our correspondent's query *re* how long combs, etc., may be infected with Acarine disease after the death of the bees. There is still a lot to be learned, and investigations on these and other lines are proceeding. In this connection the following may be of interest. We had a comb on which were a number of dead bees brought to us for examination. How long the bees had been dead was not known—probably several weeks, as those in the centre were so decomposed it was impossible to examine them. The bees were black in most cases, only the shell of the bee left: many had head or thorax missing altogether or in part. We chose for examination a bee on the outside of what had been the cluster, and that was intact. It had been dead so long that the muscles in the thorax were dry and hard, but to our surprise it contained, among other *Tarsonemus woodi*, a fully developed female, still alive.—EDS.]

Two Queens in One Hive.

[10459] I have had, recently, a very interesting experience, and in case you may care to find space in the JOURNAL give you the following facts.

I keep my bees in the apiary of the Twickenham and Thames Valley Bee-keepers' Association, which is in some large market gardens adjoining the London Road, Twickenham.

My two strongest hives are fitted with the "Brood hatching chamber" as supplied by Messrs. Lee, of Uxbridge.

My usual practice is to go through any hives requiring attention at the week end. On Sunday, May 29, on examining my No. 5 hive, which is fitted with a "Brood hatching chamber," I removed two frames of comb to facilitate my examination of the brood chamber and found the queen on the fourth comb, and on the sixth comb saw her again. I was very much surprised, and carefully repeated my inspection, but failed to find again a second queen, so closed up the hive and thought no more about it, as all was otherwise in order in this very strong stock—it was supered.

This same hive was examined yesterday, June 5, and on this occasion I caged the second queen and had no difficulty in finding the queen I had previously seen, thus establishing, without any doubt, the phenomenon of two queens working in harmony in one hive, one of the witnesses being Miss Byatt, the secretary of our Association.

I released the queen, and hope that she may still be, together with her rival or partner, performing her duties as satisfactorily as heretofore when we hold our annual "At Home" on Saturday, June 11. Mr. W. Herrod-Hempsall will deliver a lecture and, I hope, will be able to witness this state of dual control.

The stock in question swarmed last spring and threw off a cast about last June, so this fact, I think, should fix a limit to the age of the elder of the two queens.

I am aware that two queens have been found in one hive on many occasions previously, but when the number of colonies of bees is taken into consideration the occurrence is exceedingly rare.

Usually it has been found when a second queen is observed in one hive that one is much older than the other, and is in course of being superseded on this account, or for the reason that it has suffered injury prejudicial to breeding.

Cheshire states (Vol. ii., p. 326) that when two queens are found in one hive it is not indicative of the best bee-keeping practice—I closed the book after reading this and felt somewhat crestfallen.

If the foregoing notes do not occupy more space than you can spare their inclusion may prove of interest to your readers.—CHARLES D. BURNET.

P.S.—With regard to my experience with the "Brood hatching chamber" of Dr. Abushâdy's design, I have formed the opinion that an abnormal force of bees can be held in one hive with an absolute mini-

mum tendency to swarm, and under economical conditions both as regards honey gathering capacity and bee force devoted to brood rearing. Care, however, must be exercised to avoid the transference from the brood chamber proper to the brood hatching chamber of combs with uncapped larvæ. Should any eggs or very young grubs be transferred, queen cells will probably be formed.

It is important to work strictly to time table to obtain the best results from your queen. Avoid bringing the chamber into use too early in the spring or continuing its use too late into the autumn.

I consider the brood hatching chamber to be a great acquisition to the apiary of a skilful bee-keeper, but one not without danger in the hands of a novice.

Glasgow Bee-Keepers' Association and Legislation.

[10460] *Re* "Jottings" "Curiosity" page 56, A. H. Hamshar. I am indeed pleased to answer this, for I was at the meeting of the Glasgow Association. I am not quite clear about the number present, as I did not count them, but I would say about 24 to 30.

This meeting was called to consider the Bill of legislation, and from start to finish it was a one-sided affair.

I certainly proposed a motion for the Bill and got a seconder. When I went I was not prepared for such bitter antagonism against the Bill and fault-finding. My idea was something was better than nothing if it was going to help in any way the betterment of bee-keeping and improvement of the bees, and by all means let us have it.

Mr. White read us a long and exhaustive paper against the Bill, backed up by the chairman. My own opinion was they were up against it. At the same time I could not for the life of me see why such men as Mr. Stephen and Mr. White, bee-men of such standing, should be so much set against it.

I had absolutely nothing further to say, and was pressed to withdraw my motion, so, with my seconder's consent, I did so, which made the vote appear unanimous, but at the same time does not alter my opinion and some of the others I know.—ROBERT BRYDEN, Glasgow.

South African Bee-Keepers' Association.

[10461] The article, "South African Association of Bee-keepers," both interested and surprised me when I read it in the "B.B.J." of May 12, as I was under the impression that such an Association had been in existence for a good many years, only under the title of the "South African Bee-keepers' Association" (if the interchanging of the words makes any difference). I, with a number of my bee-keeper friends, was present in Johannesburg when that Association was formed, in 1908 I think was the year, and it did good work for some four or five years I know, as I did not leave the Transvaal until 1912. Many of my bee-keeper friends are still in South Africa, and therefore all apicultural matters relating to that country greatly interest me, and I wish this Association all success, whether it has been raised from the ashes of the old Association, which did much useful and uphill work, or whether it is an entirely new affair.—M. WHYTE JOHNSTONE (MISS), Whyte Cottage, Belmont Road, Reigate, Surrey.

Metal End Fixing.

[10462] Mr. Atkinson's difficulty (p. 188) of replacing metal ends at the hive could be overcome by fastening one of the H.N.W. fixers to the edge of a stout box, the box itself being fixed on to a piece of board at the bottom, the board, projecting about a foot in front of the box, being stood upon by the operator, would make the box quite rigid enough to use the H.N.W. fixer in the usual way.

There has been some little delay in getting these fixers made, owing, perhaps, to the coal strike, but we hope they will soon be ready for distribution.—H. NEWMAN, Kennardington Rectory, Ashford, Kent.

Re Dr. Bonney's Method of Queen Introduction.

[10463] The Editor ("B.B.J.," April 28) asks that readers will give results of trial.

I received six queens from E. Penna, Bologna, May 12. May 13 was warm, and bees flying freely. I removed a fairly strong stock, put down in its place another hive fitted up with four worked-out empty combs, division boards on each side, and the queen cage on the top of the bars. In ten minutes the bees had discovered the presence of the queen, and in two hours' time the hive had resumed its normal appearance, the bees working with vigour. The following day they were carrying pollen. I then repeated this with the five other queens. I have never before had so little trouble in introducing queens, or caused so little disturbance in the apiary, at a critical time of year. I should like to thank Dr. Bonney, extremely, for placing such a simple method before the readers of the "B.B.J."—EDITH GORDON, Wethersfield, Braintree.

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

MISS E. M. B. (Lancs.).—*Disinfecting appliances.*—The queen excluders and honey extractor should be well scalded and scrubbed with hot soda and water, first removing any propolis from the excluders by cleaning with Fels Naphtha soap, Gresolvent, or methylated spirit. Then wash with disinfectant and water. "Bacterol" would be suitable for this purpose

as it will not cause any taint to the honey. The clearer boards and feeders may be treated in the same manner. It is not at present known exactly how long infection from "I.O.W." disease may last.

Miss M. C. B. (Wales).—*Price of June swarms.*—We should say about 7s. per lb.

K. N. F. (Wilts.).—*Price of skep of bees.*—We cannot say exactly without seeing the stock; about £2.

M. F. B. (Bristol).—You will find instructions in "B.B.J." for March 1 and 25, and April 12, 1917, which we can supply for 8d., post free.

G. V. G. (Stoke).—Try Mr. W. P. Meadows, Syston, Leicester.

Q. D. (Dalbeattie) and S. C. C. (Southall).—We cannot say what is the trouble. Can you send some bees for examination?

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d. up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 8 and 9, at Rochford.—Essex Agricultural Show. Bee and Honey Department in charge of Essex Bee-keepers' Association. Sixteen Classes, all but one open. Silver and Bronze Medal, and many prizes.—Schedules from G. R. Alder, Hon. Secretary, E.B.K.A., 7, Bulwer Road, Leytonstone, E.11.

June 15 and 16, 1921, at Burton-on-Trent.—Staffordshire Bee-keepers' Association Show in connection with the Staffs. Agricultural Society. Four Silver Medals and five Bronze Medals in Local Classes, one Silver Medal and one Bronze Medal in the Open Classes.—Schedules from W. Griffiths, Solway House, Silkmore, Stafford. **Entries closed.**

June 23, 1921, at Doncaster.—Open Classes for Honey and Wax.—Schedules from F. H. Chafer, 9, Market Place, Doncaster. **Entries close June 13.**

June 28 to July 2.—Derbyshire Bee-keepers' Association's Show in connection with the "Royal" at Derby. Open Classes, good cash prizes and gold medal offered.—Schedules, apply F. Meakin, 37, Pybus Street, Derby. **Entries close June 20.**

June 7 to 11, at Bournemouth.—Hampshire and Isle of Wight Bee-keepers' Association Show in connection with the Royal Counties Agricultural Society. Liberal prizes.—Schedule, apply Hon. Secretary, Endsleigh, Ashley, New Milton **Entries closed.**

July 13, at Shedfield.—In connection with the Shedfield Horticultural Society's Show. Open to all bee-keepers in the area of the Swanmore and Bitterne branches of the Hants and Isle of Wight Bee-keepers' Associations. One Open Class for all bee-keepers in Hampshire.

July 20, at Alexandra Recreation Ground, Surbiton.—Surrey B.K.A. Show. Twenty Classes. Two Challenge Trophies, ten Silver, and 15 Bronze Medals. Eight Open Classes.—For Schedules apply Hon. Sec., W. E. Hamlin, 43, Norbury Court Road, Norbury, S.W.16.

July 21, at Bath.—Somerset Bee-keepers' Association's Show in connection with the Larkhall Horticultural Society's Show. Several Open Classes.—Schedules apply Mrs. Wallace, 151, Newbridge Hill Bath. **Entries close July 16.**

July 20 and 21, 1921, at Cardiff.—Cardiff and County Horticultural Society's Show, Sophia Gardens, Cardiff. Bee section under the auspices of the Glamorgan Bee-keepers' Association. Open Classes.—Schedules to be obtained from the Hon. Secretary, Chas. F. Davies, 5, Borstal Avenue, Cardiff

Saturday, July 30, and Monday, August 1, 1921, at Lichfield.—Lichfield Floral and Horticultural Society's Show. Bee and Honey Section under the auspices of the Staffs Bee-keepers' Association. All classes open.—Schedules may be obtained from the Hon. Secretary, A. H. Perrins, 30, Tamworth Street, Lichfield, Staffs.

August 20, 1921, at Ammanford.—Carmarthenshire B.K.A., in connection with Ammanford and District Horticultural Show. Silver and Bronze Medals for Members' Classes. Open Classes for Honey, Wax, etc. Good prizes.—Schedules from W. Comery, 15, New Road, Ammanford. **Entries close August 17.**

September 17 to 23.—British Bee-keepers' Association Annual Show at Grocers' Exhibition, Royal Agricultural Hall, Islington, London. Entries close September 5. Schedules from Hon. Sec., B.B.K.A., 23, Bedford Street, Strand, London, W.C.2.

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 7s. per ¼in., or 12s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens** *that are reared or imported for sale, are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on MONDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

*** Will advertiser Box 27 kindly send us his full address soon as possible.

BARGAIN. — Fine Swarm, Stock in hive, sundries; offers.—FISH, 89, Middle Lane, Hornsey, N.8. q.29

HONEY EXTRACTOR, small, wanted.—DR. WOODFORDE, Ashwell, Baldock, Herts. q.30

WANTED, as a whole or any part of the following:—A 2 or 2½ H.P. Oil or Petrol Engine, with the necessary dynamo, accumulators, switchboard, wire, switches, bulbs, and other necessary fittings for lighting house with electricity; also 2-in. Force Pump for well 90 ft. deep with overhead apparatus to be driven by above engine.—W. HERROD-HEMPSALL, Old Bedford Road, Luton, Beds. r.q.31

NUCLEUS, 3 frames, with Golden Queen, 45s.; very hardy strain. — LILLEY, Lamersh, Bures, Suffolk. r.q.32

WANTED, small Geared Honey Extractor; good condition.—66, Pembroke Road, Clifton, Bristol. q.33

BORAGE PLANTS, 2s. 6d. dozen; Giant Sunflowers, 2s. dozen, post free.—Apply, at once, TICKELL, Westbourne, Cheltenham. q.34

ITALIAN HYBRIDS.—Three strong Stocks, 10 frames, no disease, £3 10s. each, £9 the lot.—P. GATES, 31, Brandon Street, Gravesend. q.36

FOR SALE 500 4-way Sections, grooved three sides and split, £2 17s.; also four Section Crates in flat, 2s. 9d. each.—MORTON, Claremont, Annan Road, Dumfries. q.38

WHAT OFFERS for 12 large Canadian Feeders, 30 round Tin Feeders, 20 Zinc Excluders, four Super Clearers on board, five Watts' Super Clearers, one Smoker, two Veils (black), all in good condition? URIAH WOOD, Arnold, Notts. q.35

A HEALTHY MAY SWARM for Sale in straw skep, £2, or nearest offer.—LEWIS, Darley Ash, Bovingdon, Herts. q.37

OVERSTOCKED.—Strong healthy Stocks, Dutch and Italian Hybrids, ready now.—REV. COOPER, St. Paul's Vicarage, Ealing. q.40

EXCHANGE for healthy Bees, valuable Postage Stamps. — HITCHIN, Marlborough Road, Long Eaton. r.q.41

BEES.—Six good May Swarms of Dutch Bees for Sale.—CALKIN, Worlingham, Beccles. q.55

SWARMS FOR SALE, 32s., carriage paid; boxes returnable; cash with order.—PULLEN, Ramsbury, Hungerford. q.56

FOR SALE, good 10-comb Stocks of Bees, £3 10s.; box, returnable, 10s., not carriage paid; cash £4 with order, 10s. returned upon receipt of empty box.—Box 34, Bee Journal Office, 23, Bedford Street, Strand, W.C.2. q.57

FOR SALE, ten Stocks Italian Bees with 1920 Queens, guaranteed free of disease and strong, £5 per stock, carriage paid; boxes to be returned or paid for.—Apply, THOS. G. WALKER, Symonds Hyde, Hatfield, Herts. q.3

FOR SALE, Blue Beveren Doe, Mayer's strain, 20s., carriage paid.—Box 31, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. r.p.126

FOR SALE, four good Stocks 1920 Swarms, £3 10s. each.—BRINKLOW, Hadley Wood. p.83

ITALIAN HYBRIDS, strong, healthy Stocks, immediate despatch, 90s.; with hive, 112s.; box, returnable, 10s.—REV. COOPER, 62, Park Hill, Carshalton. p.85

FOR SALE, Hives, Stock Boxes, Racks, Nucleus Boxes, etc., and other material for 30 to 40 stocks. Exchange part for Motor Scooter (suitable lady), Motor Bicycle and Sidecar combination. Purchaser to remove.—ASHWORTH, Pound Street, Warminster. r.p.131

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

BEE-KEEPING.—Correspondence Course. Practical and theoretical study. Stamp.—MISS PALING, Golden Square, Henfield, Sussex. r.m.89

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1½d. per word.

BEES AND QUEENS FOR 1921.—Send for our Catalogue, free on application.—PEARSON & GALE, Marlborough. r.n.174

ROYAL AGRICULTURAL SHOW, DERBY.—We shall be pleased to send a *plan of the show ground* free to any who care to apply.—E. J. BURTT, Manufacturer, Gloucester. r.q.46

PURE ITALIANS, 3-frame, 2 gs.; 4, 2½; Hybrids, 4-frame, 2 gs.; Queens, 1921, pure, 10s.; Stocks from 70s.—W. HENSLEY, Luton Apiary, Queen's Road, Chatham. q.39

THE CUCKOO IS CALLING, and the perfumed air of the English countryside comes in delicious wafts through the open windows. But you awake troubled and perplexed. You can't remember whether the missing letters in L——d G——e spell the name of the new £1,000 Government official for clipping canary birds toe nails, or that of the last known wearer of a Sandringham hat. It is time to keep a bee.—SMITH, Cambridge. q.42

LET GEORGE DO IT.—Don't fall over yourself trying to buy a bee stock in April or May. It may need feeding, and it is just as well to let the bee farmers attend to this. When the June honey flow is about due order forward a Cambs Bee Stock, and you will get a honey crop at a minimum expense.—SMITH, Cambridge. q.43

SERVICE AND COURTESY.—Recipe No. 1. Your bees are crawling in a single brood chamber stock. Dissolve one Flavine—S Powder (1d.) in one pint of sugar syrup, and pour one tablespoonful over each seam of bees between the combs. Repeat the dose after eight days, and please report results.—SMITH, Cambridge. q.45

STRICTLY BUSINESS. — Free samples of Flavine—S; a Japanned Sprayer, 6s.; one dozen Flavine—S Powders, 1s.; "Let the Bees Tell You," 2s. 6d.; all post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.44

PURE fertile 1921 Italian Queens, imported latter half June, 8s. 6d. each, the equal of any imported queens sold; cash with order.—DAVIDSON, Forest Road, Burton-on-Trent. q.47

GENUINE DUTCH BEES IN SKEPS.—I will book orders for delivery April, 1922, £3 to £3 10s. per skep delivered; 4s. deposit each skep ordered. Bankers: Lloyds Bank, Borough Road Branch, Burton-on-Trent. — DAVIDSON, Forest Road, Burton-on-Trent. q.48

SPECIALLY selected vigorous Virgins, bred on the Cotswold Hills, by return, 5s.; replacements half price; with "Safety" Introducing Cage, 8s. each.—BOWEN, Queen Breeder, Cheltenham. q.49

SWARMING SEASON.—For all kinds of Bee Appliances by return send to BOWEN, Coronation Road, Cheltenham. q.50

FOR SALE, two Stocks strong Hybrid Bees on 10 frames, £3 each; also two 4-frame Nuclei, 30s. each.—A. W. DENNY, Godstone, Surrey. q.51

FOR SALE, 3-frame Nuclei, 40s.; 4-frame, 45s.; hybrid; box 9s., returnable.—ROBARTS, 23, Oliver Grove, South Norwood. q.52

PURE ITALIAN or Hybrid Nuclei, healthy and quiet, excellent strain, 3 frames, 42s.; buyer pays carriage.—BALE, 1, Hodford Road, Golders Green, N.W. r.q.53

PURELY mated Imported Italian Queens, June-July, 12s.; August-September, 10s.; book now; safe arrival and satisfaction guaranteed.—TICKELL.

VIRGIN QUEENS.—Hybrids, 3s. 6d., by return; Italian, 5s.—TICKELL.

3-FRAME NUCLEI, 40s., carriage paid; box 10s., returnable. — JACK TICKELL, Westbourne Apiary, Bee Farm, Cheltenham. q.54

THREE 4-FRAME ITALIAN NUCLEI with 1921 mated Queens, £2 10s. each; also two very powerful 10-frame Stocks, 1920 Queens, £4 each. The above are of excellent strain, great honey producers, healthy, quiet, and in first-class condition; immediate delivery; carriage paid.—A. H. BARTLETT, High Street, Crowthorne, Berks. q.24

E. TORTORA, Bee Breeder, Ozzano, Emilia (Bologna), from 15th to the 30th June offers Queen Bees as a sample for 5s., carriage paid. Send for 1921 Catalogue. q.1

BALDWIN'S BEES.—Three-frame Nuclei, carriage paid, 35s.; Hybrid Queens, 8s. 6d.—THE APIARY, Bromley, Kent. q.13

PURE Imported Carniolan Alpine Queens. List free.—B. WOODLEY, Thorne, near Doncaster. r.p.116

CAMBS. ABBEY STRAIN ITALIAN BEES.—Three-frame Nuclei, 1921 Bozzalla Queens £3, June delivery; box 10s. extra, returnable.—JOHN H. DOGGETT, Abbey Lodge, Cambridge. q.12

WIRE CLOTH EXCLUDERS, 18 in. square, 2s.; Syphon Drinking Fountains, 3s. 6d.; Syphon Syrup Feeders, 3s. 6d.; Swarm Catcher great success, 3s. 6d.; all post extra.—BUCKINGHAM BROS., Warwick Road, Luton. q.9

THE QUEEN PAR EXCELLENCE is the Golden Prolific Italian—no soft imported goldens tolerated. Booking rapidly, Queens and Nuclei.—E. COOMBER, Specialist Breeder, 64, Ronald Park Avenue, Westcliff-on-Sea. q.26

WE'VE HAD A S'WARM TIME.—Swarms of Bees, swarms of Bee-keepers; some, like the foolish virgins, were not properly equipped, and thereby lost their swarm. Moral: Hives first, swarms after.—Order at once from STEEL, West Ashling, Chichester. r.q.27

IMMEDIATE DELIVERY.—New Standard and Shallow Frames, wired and fitted, full sheets "Weed" foundation, and W.B.C. ends, 12s. 9d. per dozen, carriage free. ASHLEY, Lincoln House, Teddington. q.22

PURE ITALIAN QUEENS, fertile, bred in Devonshire, no blacks within miles, May, 12s.; June to August, 10s.; September, 8s.; Virgins half price; Nuclei, 3-frame 50s., 4-frame 63s., carriage paid. Send cash with order for Queens, or 10s. deposit for Nuclei. Special terms to members of the N.D.B.K.A.—TATTERSALL WILLIAMS, The Apiary, Braunton. r.p.71

STRAW Bee Hives and Straw Caps for supering. wholesale and retail. Prices on application.—LAWRENCE, Lilley, Luton, Beds. r.p.121

IMMEDIATE DELIVERY. — Italian Hybrids Stocks, 1921 fertile Queen, 8, 10 and 12 frames, £3 10s., £4, £4 10s.; covered with bees and full of brood; guaranteed free from disease; case 10s., returnable.—WEBB, 126, Balfour Road, Brighton. r.p.122

IMMEDIATE DELIVERY. — Italian Hybrids, disease-resisting and practically non-swarming strain, 1921 fertile tested Queens, Nuclei or Stocks, 3-20 frames, £1 1s. first frame, 10s. 6d. each additional frame, carriage paid; case 10s., returnable. 10 per cent. off 10 frames and upwards.—STARKEY, 55, Stafford Road, Brighton. r.p.123

28TH YEAR.—Finest 3-frame Nuclei, with pure 1921 Italian Queens bred from selected imported mother, 65s., carriage paid; 10s. refunded for box when returned; Fertile Queens, 10s. each, June delivery. Satisfaction guaranteed.—W. ROBERTS, The Thorne Apiaries, Ninfield, Battle, Sussex. r.p.70

ITALIAN NUCLEI, 4 frames, £2 5s., May-June, healthy, carriage paid; cash with orders.—ATKINS, West Grove, Walton-on-Thames. r.p.68

ITALIAN HYBRIDS, Stocks and Nuclei, perfect honey gatherers, fertile tested Queens, £1 1s. first frame, 10s. 6d. each additional, carriage paid; case 10s., returnable; immediate delivery.—STARKEY, Gorsley, near Newent, Glos. r.p.124

HIVES and all you require for Bee-keeping. Immediate despatch. Write for list. A few spare Swarms, Holmewood strain, Dutch, Dutch-Italian. Price on application.—L. ANDREWS & CO., Hive Works, Westgate, Peterboro'. 'Phone: Peterboro' 381. r.p.73

1921 PURE FERTILE ITALIAN QUEENS, guaranteed direct from Penna. Regular supplies throughout the season commencing May 7. These genuine Italian Queens need no recommendation. Price, 13s. 6d.; selected, 15s.—GOODARE, New Cross, Wednesfield. r.p.35

"LAZENBEE" Prolific Italian Queens.—Fertile, 10s.; virgin, 5s.—YOUNG, 100, Elms Apiary, Central Road, Sudbury, Middlesex. p.87

START RIGHT! Keep right! Avoid "Wight"!—ALF. RYALL'S advice tells you how. r.o.144

ALF. RYALL sells Bees. Stamp for prices.

"WIGHT" DISEASE.—Prevention and removal. Invaluable advice, 5s. 6d. "An eye-opener."—ALF. RYALL, Whiteway Apiary, near Camp, Stroud. r.n.169

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EXCEPTIONAL OFFER.—*Adminson's Breeder Hive*, fitted with ten standard aluminium semi-combs, costs £4 2s., carriage forward. Worth double this price.—For Adminson's Hives and Appliances write to JAMES LEE & SON, LTD., Uxbridge. r.n.23

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ITALIAN HYBRIDS.—Nuclei, 3-6 frames, from £2 2s., carriage paid; delivery early June; reliable strain; no disease.—HOSEGOOD, 26, Purley Park Road, Purley, Surrey. r.o.25

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ITALIAN QUEENS, home bred, hardy, prolific strain, end of May-June, 12s.; July, 10s.; Virgins, 5s.—MISSES PALING & PILLANS, Golden Square, Henfield, Sussex. r.p.67

ITALIAN QUEENS direct from Italy.—Address, ENRICO PENNA, Bologna, Italy. Price List for 1921 on application.

1921 PURE CARNIOLAN QUEENS.—Whether home-bred or imported, our Carniolan Queens are derived from Jan Strgar's famous Alpine strain, for which we have the *Sole Agency* in the United Kingdom. Price (from June onwards), 17s. 6d. per Queen; safe delivery guaranteed. A decidedly modest outlay on an investment which more than repays.—ADMINSON, LTD., Benson, Oxon. r.n.54

ENSURE a good honey crop this year by purchasing our noted 6-frame Italian Stocks. Catalogue free on application.—PEARSON & GALE, Marlborough. r.n.173

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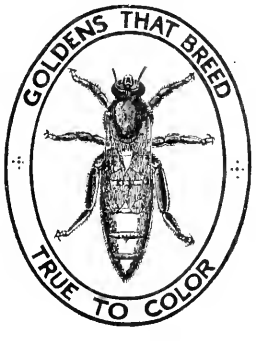

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¶ The first large edition of my literary brochure and illustrated catalogue describing these hardiest of all bees is nearly exhausted. It *will* interest you to have a copy if you have not already seen one. It is yours for the asking.

¶ Characteristics : Dutch bees are credited by all impartial critics with splendid prolificness, eminent suitability for comb honey production, and fitness for use with large hives; and, above all, their remarkable resistance to *Acarine disease*, as confirmed by recent research (see Dr. Rennie's Report, pp. 747-751).

¶ Supplies : (1) Skep colonies, with full combs, strong and guaranteed healthy. Each £4, carriage paid. *Immediate delivery.*

NOTE.—These are *not* small driven lots with half depth combs.

(2) Ten-comb stock in "Cumbernauld" hive, with excluder and crate of sections, £6 10s., carriage *forward*. *Immediate delivery.*

¶ References : "Those who fancy this variety cannot get them from a better source than 'Orme Lodge Apiary,' Mr. Whyte is Agent for the best known and largest bee-keeper in Holland, Hans Matthes."—The B.B.J., March 10, 1921.

"The championship of the Dutch bee, for which Mr. Whyte is known, receives an illuminating tribute in his catalogue, which is a literary and practical treatise on this hardy race of bees."—The *Bee World*, April, 1921.

R. WHYTE, Orme Lodge Apiary, Cumbernauld, Dumbartonshire.

GORDON ROWE, 28a, Moy Road, Cardiff. SELLS CALIFORNIAN AND COLONIAL HONIES, carriage paid, tins and cases free, and pure Beeswax. Buys home-produced Run Honey, Sections, and Beeswax. All samples 1s. each. Terms, cash. Honey Parchments, stamped pure honey, 2 lbs., 14s.; 1 lb., 9s. 6d.; ½ lb., 7s. per 100; 500 lots carriage paid.

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THE

British Bee-Keepers' Association.

Insure *now* against loss by damage done through bee stings. All particulars from

W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

The Labelling of Honey.

The labelling of honey is a matter that has interested British bee-keepers for some time, and it has more than once been brought to the notice of the Ministry of Agriculture and other Government officials. It is high time the false labelling of honey was stopped. Many of those selling it are entirely ignorant of the distinctive colour, aroma, or flavour of honey gathered from different sources.

Foreign honey is, too, often labelled "British," or simply "Pure Honey," with no indication of the country of origin, and a customer buying it is too often under the impression it is produced in the British Isles. Unfortunately, there are at the present time no powers under the Merchandise Marks Act that enable the Government to insist on all imported honey being labelled as such, and as coming from a stated country.

The Ministry of Agriculture have sent out a Press notice, which has appeared in most of the daily and other papers, drawing attention to these facts, and pointing out that most county bee-keepers' associations issue a distinctive label to their members which is a guarantee that the honey bearing it is home produced. Customers buying honey are advised to insist on having that bearing an Association label. This is all to the good of British bee-keepers, and they must do their part by joining their county bee-keepers' association and using the label on the honey sold. Care should also be taken that *all honey so labelled is of the best quality*, so that when buying it, the public may be certain it is getting *genuine British honey of good quality*. Those associations that have not yet issued a label will be well advised to do so, and the members should stir up their secretary and committee to adopt a registered label without delay. We must also work for the compulsory labelling of all imported honey with the country of origin.

An Unique Gift.

We have decided, as a token of appreciation to readers who are taking advantage of our clubbing offer, on the following presentation:—If those to whom this qualification applies would express their desire to have a nucleus of pure Carniolan bees on three aluminium semicombs, with brood and stores, we shall select an applicant by ballot, and the lucky reader will receive this gift with our compliments by the middle of next month. All applications must reach our office not later than June 25. The name of the winner will be announced in our issue for June 30.

A Dorset Yarn.

The Royal Counties Show at Bournemouth brought members of the craft from many counties together. The bee section was in charge of the Hants County Beekeepers' Association, and it attracted a great many of the huge crowds that were gathered there. Each day the manipulation of bees was demonstrated. Messrs. Bellairs, Lee and Young taking turns; the instruction was of the right sort, and the handling of bees was fearless—the bees seemed as if they could not sting these fearless operators.

Examination for certificates of both sexes was held on Wednesday. It was new to me to see the gentle sex in the tent with the bees, but many of them have taken up the craft in earnest. One has twenty-five stocks, which she tends herself; another (with a handle to her name) is enthusiastic with her bees.

Those who come from the Test Valley speak of the great weight of honey that bees are storing at a rapid rate—a rack of sections in one week. To use their own words: "It's simply pouring in." Naturally, I wanted to know the source. The answer was, "Charlock." This pernicious weed is adding to the wealth of bee-keepers. The sections exhibited were fine; the extracted had the highest awards. Mr. Young, the talented lecturer to the Hants C.C., showed a fine lot.

Prices for honey, at least for early sections, are very good, and most bee-keepers who did badly last year will make good this season. We have stocks that have already done two racks of 1-lb. and one rack of 2-lb. sections, and what is best, they have not swarmed; others which were divided in May have now finished one, and have two others beneath. This is not so with all, but it is so with ours; they do not always make up their population quickly.

I gave a neighbour a stock on nine bars of comb in April. He told me yesterday they had balled the old queen after raising a new one; the workers had decided she was not doing her best. This proves that the workers rule.

In looking through a stock that had the queen and three combs taken away on May 20, expecting to find a lot of queen cells, there was but one (that was empty). The workers did not want many, so they did not prepare for a lot. Now mark the difference where a stock had swarmed, the workers here had raised up seventeen, and when taking them out, the young queens came out, and were flying round during the day. One had escaped up into the covering on the top of sections; more than one was with the swarm, as young queens were laid out on the alighting board two mornings following.

A farmer-bee-keeper from the Isle of Wight, who has made a name for his exhibits, tells me that he does all sections now; he never has any trouble in selling all that his bees collect. His best race of bees is from a stray swarm, which came and took possession of a hive where bees had died the same season with the crawling disease. He certainly is not for an official of the Government going round condemning bees for a trace of disease; in summer they can be treated, and with a new queen they can be built up again. He does not favour the Government inspectors when the Bee Bill becomes law, and there seems to be a good many bee-keepers who think that legislation will not be for the best.—J. J. KETTLE.

Notes from Gretna Green.

This has been a honey-less season so far, and section racks, although ready, are not on yet, but my stocks have all got preliminary supers of partly stored combs. A beneficial result of the belated honey-flow is that it allows ample time for building-up extremely strong colonies.

My own Dadant has brood in all twelve combs below, and an upper storey of twelve standard combs crowded with bees. Another stock is on twelve commercial and a similar number of standards, while a third occupies thirty combs in three storeys.

All these will be contracted before supering, and the surplus brood used to build up with a young queen for re-uniting at the heather. Such powerful colonies would be cramped in the usual 21 section rack, and for their benefit I have made special supers holding 32, 36, and 40 sections in one tier.

Where there is any difficulty in getting bees to go up in the sections I would advise giving first a shallow super with one honey comb in centre and filling up with close-spaced frames containing full lengths of thin super foundation. When partly drawn, these new combs can be removed and neatly cut with the domestic scissors to exactly fill the sections, which will then be readily accepted and finished admirably without any "pop-holes" or similar blemishes.

A recent anonymous correspondent appears to doubt my suggestion that re-queening is a sure specific for "Isle of Wight" disease, and instead recommends destruction of infected stocks.

I repeat that no sensible person should accept such advice when there is no difficulty in regenerating diseased colonies through the simple effective methods advocated by such expert bee-masters as Smith and Simmins.—J. M. ELLIS, June 11.

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of May, 1921, was £4,840.

From a return furnished by the Statistical Office, H.M. Customs.

Comb Foundation.

A correspondent has asked us to reprint the following article from the B.B.J. of April 2, 1883. As others of our readers may like to try their hand at making foundation we have acceded to his request:—

The history of comb-foundation is the history of bee-keeping in bar-frame hives. With movable combs came the need of making the bees build their combs to the bee-master's will and not their own. At first this was achieved with narrow strips of guide made of plain wax, then came strips of midrib, the manufacture of the plaster casts, to form which was a tedious process, and involved a larger amount of patience and time than all bee-beepers had at their disposal. With the advisability of giving the bees full sheets of foundation on economical grounds, and also to keep the rearing of drones under the bee-master's control, came foundation machines, and the plaster casts, which I first had the pleasure of seeing used in public by Mr. J. Abbott at the annual show of the British Bee-keepers' Association for 1881 at South Kensington, for which he gained the only prize given for making foundation in the presence of the judges, which he so well deserved, the ease and rapidity with which he turned out sheet after sheet being still fresh in my memory.

The casts, which are made of plaster, are held in two wood frames, which much resemble enlarged wood frames used to protect school slates, hinged together at the bottom so as to open and shut like a book.

I make the frames of good, clean-grained, well-seasoned beech-wood, one-inch square, mortised and tenoned at the corners, and secured with a wood pin—glue not being suitable for anything subject to being repeatedly wet and dry. To give the plaster a better hold on the frames, I plough out a groove on the insides, precisely similar to the groove for holding the slate in the slate frames of our school days. The size of our frames of course will depend on the size of the standard of our hives, those I am describing are $15\frac{1}{2} \times 9\frac{1}{2}$ outside measurement, and are used to make sheets for the British Bee-keepers' Association's Standard bar-frame.

The hinges used to secure the frames together are made of brass to guard against rust, and are so adjusted as to keep the frames $\frac{1}{8}$th of an inch apart at the bottom edge when closed, and two small screws in the top bar projecting $\frac{1}{8}$th of an inch, keeping the frames at a uniform distance, top and bottom.

On the outside of the two top bars are secured two pieces of wood, three inches long by one inch thick, to give good hold-fast when in use.

Having made our frames, our next step is to fill them with plaster, with the foundation imprinted on each, so that they come together so exact as to form a perfect mid-rib, or we shall hinder our favourites in-

stead of helping them, to say nothing of the waste of wax, etc.

Before we put our carpentering tools aside, we must get a piece of board three-fourths of an inch thick, planed perfectly true and smooth on one side, and fit it into one of our frames so as the smooth side comes flush with the inside of the frame. We drive a few French nails into the frame at the back of the board to prevent this board from falling out, but care must be taken not to fix them too tight, as we shall presently have to remove them and the board as carefully as possible.

Having procured a sheet of machine-made foundation slightly larger than our casts are to be, taking care to select a sheet with sharp walls, and as uniform in thickness as possible; we lay this sheet of foundation on the frame into which the piece of board is fitted, close the frames together like a book when shut, and secure them with a make-shift cramp.

Our next step is to damp the foundation with paraffin, laid on as thin and evenly as possible with a flat camel-hair brush, to prevent the plaster from sticking.

We next secure some modeller's plaster, and having mixed it fairly thin with water in a basin, we pour on the foundation sufficient to fill the frame flush with the outside, smoothing it off, and leaving it a few minutes to set. We now turn our frames over very carefully, and we have the rough side of our three-fourths of an inch board uppermost, withdraw the French nails, remove the piece of board, and we expose the other side of the sheet of foundation, which we damp with paraffin, proceeding to fill in the second frame with fluid plaster as previously described.

Having given the plaster sufficient time to harden, we remove the cramp, open the frames, remove the sheet of foundation, and we have a cast that is a facsimile of the sheet of foundation, both in shape and size of cell, and thickness of midrib, that with proper and careful use will make us 1 cwt. of foundation before we shall find it requisite to renew the plaster.

On economical grounds, full sheets of worker foundation Association standard size should not exceed six sheets to 1 lb., so if we find our casts do not make our sheets the proper thickness we can alter it slightly by adjusting the two screws on the inside of the top bar of the frame. This has the effect of making our sheets "feather-edged," which is not very objectionable, if not carried to too great an extent, taking care to fix the thickest edges of the sheets to the top bar of our hive frames. I need scarcely point out the difficulty of avoiding the objectionable "feather-edge," on account of the brass hinges necessarily being a fixture.

It is not within the scope of this paper to deal with the subject of wax-clarifying, this should have been done in the winter months, when the bees were, like careful housewives, *within their hives.* If our wax is dark in colour never mind, providing it is pure. If we wish to purchase and apply to an importer of the precious article about the time I write this, he will tell you: *Wax has gone up* 30 *per cent. at one bound, but if you want it to give your bees I have a good "mixture," that will answer your purpose admirably, it is perfectly "harmless," a beautiful colour, and* 50 *per cent. less in price.*

It is the straws that show the flow of the stream; these words are the words of an importer of bees-wax, in no way connected with the sale of bee-keepers' appliances, consequently not likely to know about "harmless mixtures" for bees, unless inquired for by bee-keepers.

Bees do not object at all times to work out foundation adulterated with paraffin; but doubtless this accounts for the many cases of foundation breaking down, of which we have paraffin melting at a much lower temperature than bees' wax.

Having procured our wax, we proceed to make it into foundation. If expense is no object to you, you make and improve the tin-ware trade by getting a suitable vessel made, but as I am writing for small users I find a galvanised iron bath a very good makeshift for an outer vessel; in the bottom of this I lay two pieces of iron, about three-fourths of an inch thick; this allows a free circulation of water between the two vessels, which is requisite to prevent the wax from burning during the melting process. And now a word of caution as to the size of this inner vessel: This must be sufficiently large to allow the frames and casts to be dipped in and out readily, but you will readily see the larger the size of it the greater amount of wax you will be compelled to keep in stock to make foundation. In fact, this is the only drawback to making foundation in small quantities.

To complete our outfit, we shall also require a good size tub nearly filled with cold water, a table or bench, a piece of thin board, the size we wish our finished sheets to be, and a sharp knife.

Our job is somewhat "messy," but we first cut up our wax, the smaller the quicker melted, and place into the vessel sufficient to fill it, at least four inches high, when melted. The amount of foundation we require must be our guide as to quantity, but I have named the minimum amount: we now set this vessel on the two pieces of iron in the galvanised iron bath, and pour sufficient water into the bath to fill it six or eight inches high, taking care not to spill any into the interior vessel amongst our wax: we now place the bath over a fire until the wax is melted, which will retain sufficient heat after removal from the fire, which we now do, setting it alongside our tub of cold water, etc.

We now proceed by immersing the casts and frames in the cold water, lifting them out by the two wood lugs we dip them slowly into the melted wax, holding the frames open about two inches at the top until the bottom bar of our frames is immersed about three inches in the molten wax, then close them firmly, we lift them out, and still keeping a firm hold, plunge

them into the cold water, which effectually sets the wax sufficiently firm and hard for us to lay the casts open on the table, and remove the sheet of foundation. We shall find a sheet of thin wax has adhered to the outsides of our frames, this we can remelt.

Again, immersing our casts into the cold water, holding them open, we proceed to dip into the wax, repeating the process until we find we have not sufficient wax to *rise* into the casts to make perfect sheets, and with very little practice and perseverance we shall find that we can turn out sheet after sheet, which only the initiated will discern from *first prize machine-made*.

We take our pile of sheets, lay them one by one on the table or bench, and trim off with the sharp knife to the size of the piece of thin board: occasionally dipping the blade into hot water will keep it free from wax. If we intend laying any by for stock a sheet of thin paper must be laid between each sheet of foundation, or the whole will become inseparable. Wax foundation should be kept in a warm, dry place, about 60 deg. Fahr., in a tin box if possible, as bees'-wax deteriorates on exposure to the air.

To keep our casts from "bulging," place a sheet of paper between them, and secure the frames together with a cramp, and stand them on end, like a book on a shelf, attention to this will prolong their existence indefinitely.—EXPERT. April 2, 1883.

Jottings.

My first swarm-catcher.—After many years' experience of swarm-taking, being rather busy during the day, I decided to tackle up a home-made swarm-catcher, after the reading-up patterns. Misgivings began to come, when I found the drones seemed to get a fair exit, but seemed unable to get back; I wondered if the queen would likewise find her way out. The appliance seemed to delay the swarm rather, so I got tired of waiting, and gave them a couple of days to come out naturally. I found they had stored a little honey in the combs of the catcher, but did not examine them very carefully, as the cluster still seemed to grow in the hive sides; the brood-nest was in a large box.

After three days I found some two-hundred bees kept religiously to the catcher near the hive, so I made a little closer examination, and was rather taken back to find that the appliance had answered very well, but the bees were "lazing" in the interval between the box and outer case of the hive, as they had lost her majesty, and, at the same time, put their owner off the scent.

I had a happy hour driving, and brushing the bees from the box to make up the swarm required.

The box was condemned last year, but the season did not allow. I suppose I shall have to postpone another season now. Fixed combs are a complete nuisance. This was used again to accommodate some driven bees, and I feel that I deserve the combs full when destroyed, as "compensation." — A. H. HAMSHAR.

Bucks County Bee-Keepers' Association.

ANNUAL MEETING.

The second annual meeting of the above association was held at the Co-operative Hall, Bletchley, on May 28, 1921, the chair was taken by Mrs. Bass.

The report showed great increase in the Bletchley district from last year.

After the meeting, Mr. Neighbour, county expert, gave an interesting lecture on "Swarm Production and Working for Surplus Honey." About 35 members were present.

Mr. Neighbour then proceeded to explain in the plainest manner how to deal with bees. A number of questions were put and answered after the lecture.

The address was illustrated by a number of bee-keeping appliances and an observatory hive, these valuable aids to the lecture being supplied by Mr. A. E. Warren, of Simpson.

(*Communicated.*)

North Devon Bee-Keepers' Association.

A PLEASANT AFTERNOON.

A delightful time was spent on Saturday, May 28, by members of the North Devon Bee-keepers' Association, who, at the invitation of the local members, paid a visit to Braunton. The assemblage was arranged with the idea of promoting a more intimate and friendly spirit among bee-keepers in the district generally with the idea of spreading knowledge and being of mutual assistance to one another. The affair had been admirably organised by the enthusiastic Hon. Secretary (Mr. E. Tattersall Williams, of The Apiary, Braunton). The membership of the branch, which it is hoped to largely increase, now numbers 65, and it gives an idea of the success of Saturday's function when it is mentioned that the company numbered 45 members and friends, who spent several interesting hours amid pleasant and congenial surroundings.

The visitors assembled at the Hon. Secretary's residence, where they were cordially received by Mr. and Mrs. Tattersall Williams. A number of books on the subject of bee-keeping were placed at their disposal for consultation, and there was also on view an apparatus for queen bee rearing, which was briefly explained to several of the members by the Hon. Secretary, who also gave a demonstration in an electrically-driven extractor, by means of which three combs can be extracted on both sides at once—a process which takes about five minutes—and which, being self-working after being set in operation, frees the bee-keeper's hands for other duties. Unfortunately there was no honey about, and the combs were filled with water and then extracted for the purpose of demonstration. The use of an uncapping tray, for receiving the cappings from combs, and also of two ripeners—which are used for separating the honey, the thick from the thin—was explained. An adjournment was then made to the garden, a charming spot, the natural advantages of which

have been enhanced with pleasing flower beds, rustic arches, and other additions, where there are five nucleus hives for mating and six stocks. Three stocks of bees were opened, and over a dozen queen cells in course of incubation were shown; also a queen mother. Photographs were then taken of the groups "swarming," as one wag put it, around the hives—a very appropriate setting.

The guests were then called to tea, which was provided by the Braunton bee-keepers in the Congregational Schoolroom. Capt. W. B. Incledon-Webber and Miss Penelope Incledon-Webber were among those present. Mrs. Incledon-Webber, with Mesdames Sanger Tucker, E. Tattersall Williams, and Pickard, presided at the tables, Master Glwyn Davies (eldest son of the President, the Rev. J. Morley Davies, of Braunton, who was also present), and Miss Mildred and Master Ellis Tattersall Williams (the Hon. Secretary's children) assisting in serving tea. Cordial thanks were accorded the Braunton members, on the proposition of Mr. R. Beck (Pilton, Barnstaple), seconded by Mr. Finch (Ilfracombe).

While tea was being cleared, the President kindly invited the members to inspect his apiary, which, set in a beautifully-kept garden, consists of two nucleus hives and four stocks, in which much interest was taken, the Rev. Morley Davies giving much useful information. The visitors then returned to the Schoolroom, where the President gave an instructive address on a variety of topics dear to a bee-keeper's heart, including "Seasonable Hints on Bee-keeping," "The Prevention of Swarms," "Queen Introduction," and "The Advantages of Pure Stock." Questions were asked and answered. Mr. Sanger Tucker kindly lent a hive and fittings, the uses of which were demonstrated. The Hon. Secretary also gave a demonstration of how a frame should be wired and how to fix a wax foundation. The use of full sheets of wax foundation was strongly recommended from the economical point of view, it being pointed out that, if the bees had to make their own foundations, they absorbed anything from 6lb. to 26lb. of honey to produce 1lb. of wax. An extremely interesting incident was the arrival by post from Italy during the afternoon of two queen bees, which were shown to the members. The President later introduced one of these to a stock, the other will be utilised by the Hon. Secretary. Several new members were introduced, and the general hope was expressed that many similar successful "bee-keepers' afternoons" would be arranged.—(*Communicated.*)

South Staffordshire and District Bee-Keepers' Association.

A summer meeting of the above-named Association was held at the Hall Gardens, Hagley, Clent, on Saturday last, June 4.

There were about 70 members and friends present, and, considering the unsettled state of the weather up to the time of the meeting, it was a remarkable attendance, and shows that the Association is making progress.

Mr. E. H. Hipkins, Vice-President, presided. In consequence of the falling rain (very much appreciated under other conditions), the meeting was held in the Vinery, surrounded with flowers, ferns, and promising fruit.

An address was given by Mr. Leedham, Worcestershire County Council Lecturer and Instructor and Specialist in Apiculture, Taking for his subjects, "Catching and Hiving a Swarm" and "Queen Introduction," said, amongst other things:—"Do not let the bees remain in the cluster more than 15 minutes. Shake the cluster into a skep. Turn it over on to a sheet as near to the place they clustered as possible. Prop the skep up a little for remainder bees to enter. Tie up the skep soon, and put into a cool place, preferably in a cellar; place the skep upside down in a bucket or other similar receptacle.

"Never attempt to hive in middle of the day; hive in the evening. If you have no hive ready, two or three days in the cellar will not matter, but if kept there three days they must be given some thin syrup before hiving, or they will be vicious. After hiving, give them thin syrup to stimulate the queen. If possible, give them a frame of brood, without bees, from another hive.

"In introducing a queen, do not attempt to introduce a queen in the mailing cage, because the top of the frame is not the natural place for the queen; she is best in a cage pressed over emerging brood and honey. A cage with a large surface is required. Remove wire cloth from mailing cage, place a postcard with a hole in it over hole in mailing cage, and transfer to new cage. Put another postcard over hole, take a brood frame containing emerging brood and honey, brush the bees off, press new cage into frame so that it covers emerging brood and honey, put comb back into same position in the hive. In a few days there will be a number of bees in the cage who have been born there. Make a hole on opposite side of frame under cage, and queen will walk out. The colony should have been made queenless two or three days before introducing queen. Do not disturb the hive more than necessary when releasing the queen.

"If the colony has been long queenless, bring them into condition to receive a queen by giving them a frame of brood from another hive. If the queen is haughty, bring her into condition by witholding food from her 15 to 30 minutes, not more; then she will approach in an abject manner, as a beggar. If this does not do, give her a bath in cold water, and let her run into the hive bedraggled; they will take pity on her. If they do not take to her, and start balling, re-cage her for another day."

Several questions arising out of the address were asked and answered by the expert. The rain having ceased, the company proceeded to the apiary. The hives were opened by Mr. Cheshire, and manipulated by him and Mrs. Sheldon. Great interest was

attached to this by the members congregating round the hives and watching the work of the expert. Mrs. Sheldon acted very calmly in handling the frames, and her action was instructive to the ladies present.

Tea was provided at the Lyttelton Arms Hotel, Hagley, and served in a commendable manner, after which the Secretary (Mr. W. J. Walton) made statements as to the work of the committee, and provision that was being made for future outdoor meetings this year at the Stafford County Council Apiary Farm Institute, Penkridge, at Smethwick, and Tipton, and asked for all the members to make each meeting a success in point of attendance and interest in the proceedings.

The question of winter lectures in various districts, and a lending library, was under consideration.

The Hon. Secretary referred to the offer of the Apis Club to supply a number of the *Bee World* at a reduced fee, to be distributed through the Secretary, remarked on the excellency of the journal, and said he was willing to help in the matter as much as possible. Several members promised to support the Apis Club, and assist in the circulation of the journal.

Votes of thanks to the Chairman for presiding, Mr. Leedham for his address, Mr. Dixon for his kindness in allowing the meeting to be held at his apiary, were passed. All considered the meeting was very enjoyable, instructive, and a great success.—(*Communicated.*)

Wickham Bishops and District Bee-Keepers' Association.

The second meeting of above this season took place at Monken Hadley, by kind invitation of Miss Younghusband, on May 28. Unfortunately owing to rain and difficulties of travelling, the attendance was small, and much regret was felt at the unavoidable absence of our secretary, through the death of a personal friend. On arrival at Braintree the Witham district members were met by motor-cars, and after a pleasant run of two or three miles were warmly welcomed by the hostess and her friends. As it was raining, we were all soon deeply interested in a fine observatory hive, with its 37,000 inmates, from which a young queen hatched a few hours' before, the owner observing one of the workers with the cap of the queen cell racing round the crowd, like a child with a Union Jack, announcing the arrival. Next all sat down to an excellent tea, which was thoroughly enjoyed and appreciated, after which, the rain having stopped, a move was made to the apiary. First manipulation was looking into a skep to see when the bees were likely to swarm. The skep was crowded with brood and looked very promising, next a bar frame stock of "Claridge's" strain, with two boxes of shallow frames, unfortunately drone brood was predominate next to brood chamber, showing the need of worker foundation next to brood. To give queen the extra room needed, for present-day strain of queens a ten-frame hive of standard size is not sufficient for her laying powers. Another point of importance was the smoke, and a little sharp rapping, to get bees in a good humour for manipulating, before opening the hive, which so many beginners forget, just thinking they are opening their own front door, then wondering why the bees are so cross and spiteful. Our next meeting is to take place at our hon. secretary's apiary, Rev. Canon Pelly, Wickham Bishops, at the end of the month.—T. HAMMOND, Bee Expert, Great Totham.

Doncaster Agricultural Society.

The Doncaster Show and Sports fixed to be held on June 23, 1921, will not take place.

At a special meeting held at noon to-day, the Council decided to take this step owing to the restrictions imposed under the Foot-and-Mouth Disease Order, and the inadequate railway services available for exhibitors of stock and sports competitors.—F. H. CHAFER, Secretary, 9, Market Place, Doncaster. June 11, 1921.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Immunity from "Isle of Wight" Disease.

[10464] Mr. F. Pettipher strikes a new note in an old chord. Those of your readers who remember the "Kill to Cure" controversy of 1914 will know that almost as a voice crying in the wilderness I upheld the claim that immune bees were the ones to seek, and among other contentions was that we should import bees from the district whence the original importers of the disease came. At that time there was some reason to suppose that this could be ascertained, but before anything had come of the suggestion Mr. Mason rushed meteoric across the trail with the Dutch. I still believe that the Dutch were, and are, more or less, immune—oxypherically virile, if Mr. Pettipher prefers it—but apart from the undesirable qualities inherent in them, which have made them a by-word among bee-keepers, they failed for two reasons which would apply to any bees. First, that in process of time their virility is liable to be lost under new climatic conditions; secondly, that lack of control in mating inevitably means that their qualities are lost by crossing with indigenous strains.

It is one thing to be able to measure the virility of a given bee and another to maintain that virility under new conditions, and this is just the difficulty which seems to baffle us at every attempt, and makes one

very dubious about the benefit of importing bees.

I fear this communication is not one of a very optimistic character, and perchance the mantle of Mr. Macdonald has embraced me in its folds. I have, alas, nothing of a constructive nature to bring forward, but I still believe that to keep on rearing bees from stocks which come through the plague is the soundest practice.

But why is Mr. Pettipher sceptical about the mites? Surely there is no dispute about the fact that Dr. Rennie discovered a mite which no one else discovered, and proved that the conditions so prominent in the affection can be produced artificially by doing exactly what the mite does—choke the trachea.—HERBERT MACE.

A Novel Method of Queen Rearing.

[10465] Here is a method of queen rearing which will interest bee-keepers, and which I find works all right, and I think it is novel, at least I have never seen such a method described before. I do not claim that it is any improvement on existing methods—it is certainly a useful alternative method to have in mind.

I prepare a strong colony made queenless by inserting a few combs of emerging bees and make a queen frame in the usual way, *i.e.*, I fix cell cups under the top bar and foundation in the lower part of the frame.

The novel procedure is in the avoidance of "grafting." From the colony with the selected queen I obtain a comb of just hatched worker eggs, and from this comb I cut a strip and prepare it as for the "Alley" plan of queen rearing by shaving off all cells on one side, and those on the other side down to about 1-16th inch of the septum.

I now fix a strip of foundation with melted beeswax to the cell bar, and then fix the prepared strip on the strip of foundation.

I prepare cell cups, say ten or a dozen in the usual way, and then with a hot knife I cut off the base to make what I call "ring cups," open at both ends, having tapering cylindrical walls.

I next put a little royal jelly beside every third or fourth larva in the shaved down cells, and press a "ring cup" over each and place in the hive at once. It is immaterial whether the intermediate larvæ are destroyed. The strip of foundation helps in securing the strip of eggs, but, more important, it provides the bees with plenty of wax to fashion fine cells in their own inimitable way.—JAMES B BALLANTYNE.

A Bee Brotherhood.

[10466] With reference to Col. Kettlewell's article (10448), I think the suggestion of the Bee Brotherhood a brilliant one, but I hope the title will not exempt the opposite sex from joining. Might I suggest that it be open to any individual whether members of associations or otherwise? Could not the B.B.J. produce a badge (either gold or silver) and card of membership, each member paying the cost of same? Would not "The Bee Union" be a suitable title?—A. B. FLOWER, June 10, 1921.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d. up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 8 and 9, at Rochford.—Essex Agricultural Show. Bee and Honey Department in charge of Essex Bee-keepers' Association. Sixteen Classes, all but one open. Silver and Bronze Medal, and many prizes.—Schedules from G. R. Alder, Hon. Secretary, E.B.K.A., 7, Bulwer Road, Leytonstone, E.11.

June 15 and 16, 1921, at Burton-on-Trent.—Staffordshire Bee-keepers' Association Show in connection with the Staffs. Agricultural Society. Four Silver Medals and five Bronze Medals in Local Classes, one Silver Medal and one Bronze Medal in the Open Classes.—Schedules from W. Griffiths, Solway House, Silkmore, Stafford. **Entries closed.**

June 23, 1921, at Doncaster.—Open Classes for Honey and Wax.—Schedules from F. H. Chafer, 9, Market Place, Doncaster. Show will not take place, see page 274.

June 28 to July 2.—Derbyshire Bee-keepers' Association's Show in connection with the "Royal" at Derby. Open Classes, good cash prizes and gold medal offered.—Schedules, apply F. Meakin, 37, Pybus Street, Derby. **Entries close June 20.**

June 7 to 11, at Bournemouth.—Hampshire and Isle of Wight Bee-keepers' Association Show in connection with the Royal Counties Agricultural Society. Liberal prizes.—Schedule, apply Hon. Secretary, Endsleigh, Ashley, New Milton **Entries closed.**

July 13, at Shedfield.—In connection with the Shedfield Horticultural Society's Show. Open to all bee-keepers in the area of the Swanmore and Bitterne branches of the Hants and Isle of Wight Bee-keepers' Associations. One Open Class for all bee-keepers in Hampshire.

July 13.—Wickham Bishops and District Bee-keepers' Co-operative Association. Group 2: Open to bee-keepers resident in Essex. Class 80, four sections, 1st prize, 7s. 6d.; 2nd, 5s. Class 81, 1 lb. extracted honey, 1st prize, 5s.; 2nd, 3s. Class 81a, cake of beeswax, ½ to 1 lb. weight, 1st prize, 5s.; 2nd, 3s. Group 3: For bee-keepers resident in the British Isles. Class 82, 1-lb. glass jar of 1921 run or extracted honey, 1st prize, 20s.; 2nd, 10s. 6d. Exhibits in Class 82 to be the property of the Association, and will be distributed among hospitals in the County of Essex. Entrance fee 6d. per class. Rules for exhibiting on back of entry form.—All entries to be sent to R. A. Pelly, Hon. Sec., Wickham Bishops, Essex. **Entries close on July 6**

July 20, at Alexandra Recreation Ground, Surbiton.—Surrey B.K.A. Show. Twenty Classes. Two Challenge Trophies, ten Silver, and 15 Bronze Medals. Eight Open Classes.—For Schedules apply Hon. Sec., W. E. Hamlin, 43, Norbury Court Road, Norbury, S.W.16.

July 21, at Bath.—Somerset Bee-keepers' Association's Show in connection with the Larkhall Horticultural Society's Show. Several Open Classes.—Schedules apply Mrs. Wallace, 151, Newbridge Hill Bath. **Entries close July 16.**

July 20 and 21, 1921, at Cardiff.—Cardiff and County Horticultural Society's Show, Sophia Gardens, Cardiff. Bee section under the auspices of the Glamorgan Bee-keepers' Association. Open Classes.—Schedules to be obtained from the Hon. Secretary, Chas. F. Davies, 5, Borstal Avenue, Cardiff.

Saturday, July 30, and Monday, August 1, 1921, at Lichfield.—Lichfield Floral and Horticultural Society's Show. Bee and Honey Section under the auspices of the Staffs Bee-keepers' Association. All classes open.—Schedules may be obtained from the Hon. Secretary, A. H. Perrins, 30, Tamworth Street, Lichfield, Staffs.

August 20, 1921, at Ammanford.—Carmarthenshire B.K.A., in connection with Ammanford and District Horticultural Show. Silver and Bronze Medals for Members' Classes. Open Classes for Honey, Wax, etc. Good prizes.—Schedules from W. Comery, 15, New Road, Ammanford. **Entries close August 17.**

September 17 to 23.—British Bee-keepers' Association Annual Show at Grocers' Exhibition, Royal Agricultural Hall, Islington, London. Entries close September 5. Schedules from Hon. Sec., B.B.K.A., 23, Bedford Street, Strand, London, W.C.2.

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 7s. per ½in., or 12s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

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Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

SWARM, June 10, for Sale, 27s. 6d.; also 5-frame Stock pure Italian Bees, Penna strain, 40s.; carriage extra. Wanted, Geared Extractor in good condition.—HULBERT, "Chalet," Warwick Road, Olton, Warwickshire. q.74

FOR SALE, two Stocks of Bees, nine nearly new expensive Bar Frame Hives, quantity of material comprising complete outfit, price £20 for everything on rail; bargain.—MAJOR R. BACON, Swallowcliffe, Salisbury. q.75

HYBRID QUEENS.—Can spare several 1921 Queens, fertile 10s., virgins 5s. (sent registered post); no disease.—W. JACKSON, Certified Expert, B.B.K.A., Post Office, Bleasby, Notts. q.76

FOR SALE, pure new English Honey, very light colour; sample 1s.—LAW, Cuckoo, Ashwell, Herts. q.77

TWO EMPTY HIVES, good condition, clean. 18s. each.—W. ROSE, Westcott Street, near Dorking. q.79

EXCHANGE, new Bee Appliances for good Swarms.—35, Tharp Road, Wallington, Surrey. q.80

SWARMS, good stuff, prompt despatch, 35s.; boxes and carriage free.—AVERY, Deverill, Warminster. q.81

CHAIN GEARED EXTRACTOR by Lee, nearly new, 70s.; several sets drawn-out Shallow Frames of comb and W.B.C. ends, clean, 10s. 6d. set, with crate 12s. 6d., carriage extra.—W. WOODS, Normandy, near Guildford. q.82

A FEW STOCKS OF BEES for Sale, guaranteed healthy and strong, with 1921 Italian Queen, £4 4s.—WIGGINS, The Bungalow, Norton Road, Wembley. q.66

WANTED, a standard 10-framed American Langstroth Hive.—TAYLOR, 137, Keldgate, Beverley q.84

FOR SALE, several Swarms Italian Hybrids, 30s. each.—G. DONOHOE, 43, Adelaide Road, St. Denys, Southampton. q.59

FOR SALE, six Simmins' Double Conqueror Hives, with section racks and supers, in very good condition, £5 each; also eight W.B.C. Shallow Frames, complete with drawn combs, 14s. each, and four with full sheets of foundation, 10s. each.—E. A. DEBENHAM, Bladen Apiaries, Dorchester. q.61

NICE STOCK on 8 frames, guaranteed healthy, 1920 Queen, 70s.; box 10s., returnable.—BROWN, Beechwood, Wantage. q.63

TWO strong, healthy Stocks of Bees, £3 each; boxes 5s. extra, returnable. — HEWITT, Furners Green, Sheffield Park, Sussex. q.64

FOR SALE, drawn-out Brood Combs, standard frames, good condition, 12s. dozen, carriage forward.—THATCHAM FRUIT FARM, Newbury q.67

ITALIAN VIRGINS.—Surplus, pure, naturally raised Penna Virgins, 5s.—Stamped address, HEADMASTER, Grammar School, Doncaster. r.q.68

FOR SALE, 1921 fertile Queen, 10s. 6d.—MR. LAMB, 7, Redbourne Avenue, Church End, Finchley, N.3. q.70

BARGAIN. — Fine Swarm, Stock in hive, sundries; offers.—FISH, 89, Middle Lane, Hornsey, N.8. q.29

WANTED, as a whole or any part of the following:—A 2 or 2½ H.P. Oil or Petrol Engine, with the necessary dynamo, accumulators, switchboard, wire, switches, bulbs, and other necessary fittings for lighting house with electricity; also 2-in. Force Pump for well 90 ft. deep with overhead apparatus to be driven by above engine.—W. HERROD-HEMPSALL, Old Bedford Road, Luton, Beds. r.q.31

NUCLEUS, 3 frames, with Golden Queen, 45s.; very hardy strain. — LILLEY, Lamersh, Bures, Suffolk. r.q.32

WANTED, small Geared Honey Extractor; good condition.—66, Pembroke Road, Clifton, Bristol. q.33

EXCHANGE for healthy Bees, valuable Postage Stamps. — HITCHIN, Marlborough Road, Long Eaton. r.q.41

SWARMS FOR SALE, 32s., carriage paid; boxes returnable; cash with order.—PULLEN, Ramsbury, Hungerford. q.56

FOR SALE, good 10-comb Stocks of Bees, £3 10s.; box, returnable, 10s., not carriage paid; cash £4 with order, 10s. returned upon receipt of empty box.—Box 34, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. q.57

FOR SALE, ten Stocks Italian Bees with 1920 Queens, guaranteed free of disease and strong, £5 per stock, carriage paid; boxes to be returned or paid for.—Apply, THOS. G. WALKER, Symonds Hyde, Hatfield, Herts. q.3

FOR SALE, Blue Beveren Doe, Mayer's strain, 20s., carriage paid.—Box 31, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. r.p.126

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

Fertile Italian Queens. May 10/6. Satisfaction guaranteed. PEARSON & GALE, Marlborough.

PENNA QUEENS, 1920, 1921, heading 10-frame Stocks, £5 5s.; magnificent Hybrid ditto, 1920, 1921 Queens, £4; carriage extra; boxes returnable; owner going India.—MISS GARNIER, Quidenham Parsonage, Attleborough, Norfolk. q.62

NUCLEUS, 3-frame, 1921 Queen, prolific and healthy, 35s.; box 9s., returnable; room wanted.—B. FLOWER, Eastbury, Surrey Road, Bournemouth. q.71

BEE-KEEPING.—Correspondence Course. Practical and theoretical study. Stamp.—MISS PALING, Golden Square, Henfield, Sussex. r.m.89

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1½d. per word.

BEES AND QUEENS FOR 1921.—Send for our Catalogue, free on application.—PEARSON & GALE, Marlborough. r.n.174

WHEN YOU WANT goods quick send to BOWEN, Cheltenham. You get them immediately. q.85

VIGOROUS ITALIAN VIRGINS, 5s. by return. —BOWEN. q.86

REAR YOUR OWN QUEENS.—Practical Outfits from 10s. 9d. Full Queen List.—BOWEN. q.87

3S. SECURES "Safety" Introducing Cage for virgin-fertile queens; rarely fails.—BOWEN, Cotswold Queen Breeder, Cheltenham. q.88

STRONG 3-FRAME NUCLEI with fertile Queen and at least two frames containing brood.—W. WOODS, Normandy, near Guildford. q.83

RECIPE No. 2.—Your bees, supered and in double brood chambers, start to crawl, and do not react to any dosing with drugs. Divide the brood chambers, leaving old queen on old stand. Give supers and an Italian queen to young bees on new stand. Most of the old bees will return to the old stand. Chloroform the bees on old stand, choosing a warm evening during settled weather, as it will take about 24 hours for the bees to recover. But old Tarsonemus will give up the ghost.—SMITH, Cambridge. q.69

SERVICE AND COURTESY.—Recipe No. 1. Your bees are crawling in a single brood chamber stock. Dissolve one Flavine—S Powder (1d.) in one pint of sugar syrup, and pour one tablespoonful over each seam of bees between the combs. Repeat the dose after eight days, and please report results.—SMITH, Cambridge. q.45

ROYAL AGRICULTURAL SHOW, DERBY.—We shall be pleased to send a *plan of the show ground* free to any who care to apply.—E. J. BURTT, Manufacturer, Gloucester. r.q.46

QUEENS BY RETURN. — Virgins, Hybrid 3s. 6d., Italian 5s., fertiles 12s.—TICKELL.

6-FRAME STOCKS, £4, carriage paid; box 10s., returnable.—TICKELL.

500 PURE ITALIAN VIRGIN QUEENS, for July delivery, 3s. 6d. each, six for 18s., 12 for 30s. Order now.—JACK TICKELL, Bee Farm, Cheltenham. q.65

STOCKS on 10 frames, Italian Hybrid, "in the pink," £5, carriage forward; box 10s., returnable.—ALF. RYALL. q.58

"WIGHT" DISEASE.—Prevention and removal. Invaluable advice 5s. 6d. "An eye-opener."—ALF. RYALL, Whiteway Apiary, near Camp, Stroud. r.n.169

BALDWIN'S BEES.—Three-frame Nuclei, carriage paid, 35s.; Hybrid Queens, 8s. 6d.—THE APIARY, Bromley, Kent. q.13

HYBRIDS, Italian (Penna's) and British strain (disease resisters for 60 years), 3-frame Nuclei, 1921 Queen, 42s., August 37s., cash, carriage paid; also Swarms; satisfaction guaranteed; references to satisfied customers.—MOORE, 31, Monmouth Road, Dorchester. r.q.72

PURE ITALIANS, 3 frame, 2 gs.; 4, 2½ gs.; Hybrids, 4 frames, £2; Queens, 1921, pure, 10s.; Stocks, 8s. frame.—HENSLEY, Luton Apiary, Queen's Road, Chatham. q.78

I HAVE several 5-frame Nuclei for disposal, Hybrid, 35s. each; box free.—RICHARDSON, Grange House, Grange Road, Gillingham, Kent. q.73

QUEENS.—1921 fertile Italian Hybrid, by return of post, prolific and energetic strain, price 8s. 6d. each.—HOSEGOOD, 26, Purley Park Road, Purley, Surrey. q.60

STRICTLY BUSINESS. — Free samples of Flavine—S; a Japanned Sprayer, 6s.; one dozen Flavine—S Powders, 1s.; "Let the Bees Tell You," 2s. 6d.; all post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.44

PURE fertile 1921 Italian Queens, imported latter half June, 8s. 6d. each, the equal of any imported queens sold; cash with order.—DAVIDSON, Forest Road, Burton-on-Trent. q.47

GENUINE DUTCH BEES IN SKEPS.—I will book orders for delivery April, 1922, £3 to £3 10s. per skep delivered; 4s. deposit each skep ordered. Bankers: Lloyds Bank, Borough Road Branch, Burton-on-Trent. — DAVIDSON, Forest Road, Burton-on-Trent. q.48

PURE ITALIAN or Hybrid Nuclei, healthy and quiet, excellent strain, 3 frames, 42s.; buyer pays carriage.—BALE, 1, Hodford Road, Golders Green, N.W. r.q.53

THREE 4-FRAME ITALIAN NUCLEI with 1921 mated Queens, £2 10s. each; also two very powerful 10-frame Stocks, 1920 Queens, £4 each. The above are of excellent strain, great honey producers, healthy, quiet, and in first-class condition; immediate delivery; carriage paid.—A. H. BARTLETT, High Street, Crowthorne, Berks. q.24

CAMBS. ABBEY STRAIN ITALIAN BEES.—Three-frame Nuclei, 1921 Bozzalla Queens £3, June delivery; box 10s. extra, returnable.—JOHN H. DOGGETT, Abbey Lodge, Cambridge. q.12

WIRE CLOTH EXCLUDERS, 18 in. square, 2s.; Syphon Drinking Fountains, 3s. 6d.; Syphon Syrup Feeders, 3s. 6d.; Swarm Catcher great success, 3s. 6d.; all post extra.—BUCKINGHAM BROS., Warwick Road, Luton. q.9

THE QUEEN PAR EXCELLENCE is the Golden Prolific Italian—no soft imported goldens tolerated. Booking rapidly, Queens and Nuclei.—E. COOMBER, Specialist Breeder, 64, Ronald Park Avenue, Westcliff-on-Sea. q.26

WE'VE HAD A S'WARM TIME.—Swarms of Bees, swarms of Bee-keepers; some, like the foolish virgins, were not properly equipped, and thereby lost their swarm. Moral: Hives first, swarms after.—Order at once from STEEL, West Ashling, Chichester. r.q.27

IMMEDIATE DELIVERY.—New Standard and Shallow Frames, wired and fitted, full sheets "Weed" foundation, and W.B.C. ends, 12s. 9d. per dozen, carriage free.—ASHLEY, Lincoln House, Teddington. q.22

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¶ To keep bees profitably, when bee diseases are still rampant, is a problem which for long remained unsolved until the introduction of Dutch bees on an extensive scale in this country, and the increase of knowledge regarding their proper management. To any reader of the JOURNAL I shall be pleased to forward interesting literature and price list on application.

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¶ References: "Those who fancy this variety cannot get them from a better source than 'Orme Lodge Apiary,' Mr. Whyte is Agent for the best known and largest bee-keeper in Holland, Hans Matthes."—The B.B.J., March 10, 1921.

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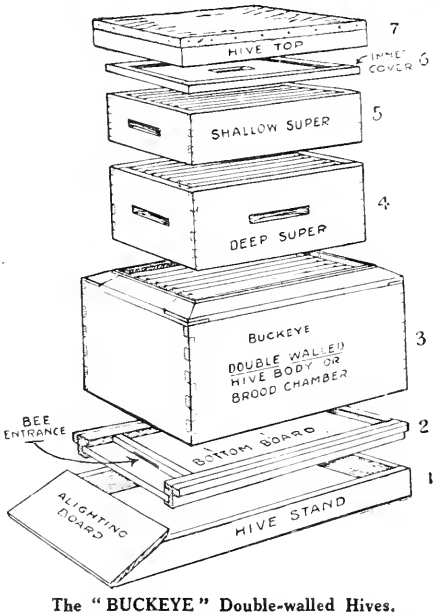

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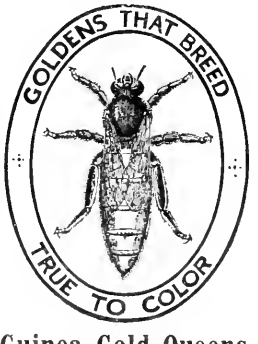

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The New Postal Rates.

Those of our readers who have their BRITISH BEE JOURNAL by post would notice last week that the postage was a penny, the Postmaster-General having decided to impose—that is the right word—another halfpenny on the postage of postcards and printed matter up to 1 oz in weight. This will raise the post-free subscription of THE BRITISH BEE JOURNAL to 13s. and THE RECORD to 3s. per annum. The price of the papers remains the same. Subscribers may either send remittance to cover the extra postage or we will adjust the date of expiry of subscriptions paid to meet the new conditions.

A Dorset Yarn.

Acres of wild white clover close to the hives have given the bees a great incentive to work their hardest. Our stocks are now at their largest in numbers. We are now taking out the excluder in many of them, as we find that the queen does not go up in the surplus racks after mid-June. Some of them have the double lot of combs, others have standard combs and shallows, then sections. Where we want clean standard combs for exhibition we still keep the excluder; others have excluder between sections and shallows. Those that have not swarmed, a box of shallows above the brood nest has put off the swarming fever for another time. Some of the stocks divided in May have two racks of surplus nearing completion. One of my friends expects 300 lb. from one stock this year; he has built it up with two boxes of standard combs and three shallows. He has to get on a sugar-box to reach the sections on top of this. It is not numbers of hives that give the returns, but the good stocks that have the population up to 60,000 or more bees. Two of our very strong lots that swarmed had the large skeps full of bees; these were given five bars with drawn-out comb, the other five new foundation. Each were given two racks of sections the same time; the upper one had three partly-filled sections from another hive. Bees have never left these partly-filled ones; they have followed on with the filling and building cells, even above the sections. The lower rack is drawn out and ready for capping. All this is in the few days from June 8 to 18. These ten days have brought out such a large number of young bees that the parent hive seems nearly as populous as before. It is computed by some writers that 50 to 100 thousand go with a swarm; how many must there be in a half-bushel skep? [This is an over-estimate; 20 to 30 thousand is nearer the mark.—EDS.]

I receive letters asking how I get them up in sections early. This depends on the size of the swarm. If a very large one, let them have the whole of bars in the brood box at once, but if the swarm is only a moderate one, give them seven bars, a dummy between these and the other three; this will give them less room for stores in the brood box, and will necessarily drive them up in the sections to store the nectar which is now coming in so fast. As soon as they have started the sections in numbers, which can be easily detected (even if there is no glass over them) by the clicking noise made by their legs and wings as they draw out the cells with feverish haste; then the other three bars can be added to the brood chamber by taking away the dummy. I found out this by making brood boxes from all kinds of cases, which were bought to send away our fruit and plants. Some would only hold seven bars, others eight and nine. The smaller ones had the sections started first, but if this is a May swarm with only seven bars, it is sure to swarm again in July, unless given an extra brood box, or shallows, for the queen to move into. All this experience teaches the bee-keeper.

What is most interesting to the many visitors that come to the farm is the glass covering over the standard bars for extracting. Clean new bars with cells drawn out, and nearly full of honey seem to attract them more than do the sections; the shallow bars with glass covering have the same attraction. Books teach the quilt covering but, for interest in bees, the glass gives the most teaching, and it enables the owner to see what progress is made; besides, there is not so much propolis to clean off the sections when ready for market.

This last week visitors came from the Edinburgh district (by motor). Mr. Weir had a week's holiday, and had spent it with the bees in the different counties; he was here Friday, and he was to do Salisbury Saturday. On that day the largest party, about fifty, from the Bournemouth area, came to the farm; they are having outings each month to different bee-keepers. It keeps alive the interest of their numbers, besides giving pleasure to those they visit. It is such as this that makes for the brotherhood of bee-keepers, of which Col. Kettlewell writes, and it is remarkable what a leveller the craft is in the numbers that visit the farm, either singly or collectively—"cook's son or duke's son," as Kipling put it. All class distinction seems forgotten in the interest in bees; this "fellow-feeling makes it wondrous kind," and unites us all in one bond of fellowship.

Prizes at the Royal Counties Show for new inventions which will be beneficial for the craft, brought the Cambridge floor-board, which had the prize. One hive had a part on a pivot which could be opened out to let a swarm enter their home easily, and closed after they are safely housed; this does away with lifting up the outer case to let in the bees. I thought it an improvement, but the judge thought differently. I have always

found that a new floor-board was wanted, as the opening in the front must necessarily make the brood chamber cold in winter. At the back of the "Cambridge" floor-board a small entrance for winter leaves the whole of the front warm for spring breeding. Another invention sent me by the Rev. H. Newman must be a boon to all extractors of standard and shallow bars. What we want is a British firm to make the sections; the increased prices of these must take away a lot of the profits of those who do sections wholly. They seem to be just double the price to what they were a few years since. A friend of mine in Hampshire bought a great number of cases at the pre-War rates, and he is now retailing them at the present prices.—J. J. KETTLE.

Jottings from Huntingdonshire

Despite the drought, the honey flows in; the limes and Portuguese laurels have saved the situation. It is sad to see the scorched pastures, and the white clover heads half-shrivelled before they open. We shall all do well to get as much honey as we can now. The floral season will be over early, and consequently autumn feeding will be necessary before summer has spent her days. On the hedges with a north aspect the dog roses still bloom in their glory, accompanied with the alder. The bees are collecting pollen from a source I cannot trace; the colour is drab. While the myriad scarlet poppies in the cornfields attract many of the hive bees, some go to flowers unknown to their owner. A small swarm settled on an inaccessible bough of an elm tree the other day, and fully 30 ft. from the ground. The only way to get them, it seemed to me, was with the help of a gun; so placing a skep and a sheet on the ground beneath the cluster, I took steady aim and fired at the point where the cluster was attached to the tree. I knew the spreading of the shots would kill some bees, and ran the risk of killing the queen; but it was a thousand to one she would escape. The shot took effect. Quite the bulk of the charge struck the branch, and the sudden jar brought the bees down in two lumps. Turning the skep over the second lump, in which I saw the queen, the rest were not long in finding her, and within an hour the swarm was safely hived.

I had some thoughts of piecing up my article on drones this week, but have been discovering something new with regard to them, and so want to investigate further. Just to satisfy those good people who keep writing to ask, What is a king bee? I will just reply, the head drone, who orders or incites the swarm. Of this, more anon.

The census enumerator has just been, and asked, "However can you live in this hole?" Strangely enough, he himself lives in a village; much larger than this, it is true, but situated in a hollow, and yet he can come up here, some 160 ft. higher, and describe it as *a hole*. What strange metaphors some people use! People with loftier souls come and linger longingly over the beauty of it all, and wish houses were available that they might share our joys with the birds, bees, beasts, and flowers. There is the yellow-hammer singing almost at my elbow, bees more inquisitive than the rest come and crawl over this paper, and then fly off in seeming disgust because the attractive whiteness of the paper refuses to yield moisture, nectar, or pollen. Foals in the meadow have a Derby of their own, while the goatlings have their Ascot. The bees do steeple-chasing with great glee; even obstacle races come not amiss.

How many journeys does a bee take in a day? Much depends on the age of the bee and the distance she has to go. Watching a hive of bees which were rushing pell mell to a field yellow with charlock—as the bee flies, some three hundred yards away—and colouring one little lady as she came out, and timing her, one found that she was able to make seven journeys in an hour. I hadn't time to note if she kept this up. I should scarcely think she would, but I do know that in the evening she was still airing. The next day she was wax making.

Do bees draw out weed foundation, or built upon it? Both—the latter as a rule. You cannot stop wax secretion during the honey flow; it is against Nature; and though weed foundation saves, it does not save nearly so much as some think. It is a great advantage in ensuring even combs. Experimenting with two hives side by side—one, by the way, being a skep—with the same weight of bees introduced to each one, the hive having full sheets of foundation, the skep none, one found at the end of the week the skep bees were very little behind the hive bees in the amount of cells prepared and honey stored. One keeps learning, and finds there is heaps more to learn where bees are concerned.

E. F. HEMMING.

Steeple Gidding.

Notes from Nature, Seen on a Christmas Ramble.

BY TOM SLEIGHT.

Being nice weather during the Christmas holidays, I thought a ramble out on the old bike round Worksop and Retford, just to see how the bee trade was flourishing in that part, would be grand. Starting out about 11 on the Sunday morning I sailed away down to Wingfield Church, on through Wingfield, past Highfield and Holmewood to Heath, where in the vicarage garden I saw the first snug corner for a couple of hives of bees, that were absent. Then as I cycled on down narrow lanes and up the steep hill into Palterton I came upon another ideal place for ten or a dozen hives in a garden just under the hill top, and sheltered from west and north winds by fruit trees. This was also vacant, while as I passed over the hill-top to the east lay clover fields galore. Pushing a bike up Palterton Hill with the hot December sun shining on one's back is warm work, and I pause to cool, and listen to the famous Doe Lea brass band playing Christmas carols in the valley below.

How the sound carried that day; could fancy I could hear that band when I had got five miles away, or it may have been the echoes of another. But having cooled down, I push on over the hill-top. Skirting Bolsover along the Elmton road, past the Bolsover jam factory and fruit farm, where I noticed some ten or dozen hives among the apple trees. What a fine place for bees here, fruit on one side of the road and clover fields on the other, but not a sycamore or thorn tree in sight. We never seem to come across a place where there is every kind of flower in the same place. Elmton seems to be in the midst of fine clover fields, but I failed to locate any hives in that village. Still on I go through the famous colliery village of Cresswell and through the more than famous Cresswell Crags, with their caves and cavern blown out of the limestone rock, and all getting grown up with ivy. The lake looks as if the limestones have been removed to make it. More time spent exploring that spot might reveal more of the Roman work in by-gone days, for it certainly has not been the work of the present generation. Just by the other end of it, you come across one of the many lodge gates that surround the Welbeck property. All the gardens are ideal places for bees, which seem conspicuous by their absence.

A little further on, I strike the main Worksop and Mansfield road, a tarred surface covered with the drizzle of the previous night. Here I had the sun and wind at my back and cycling was a pleasure. After I had gone about a mile I looked back; cycling the other way would be anything but a pleasure. The sun glittered on the water on the road, making it impossible to see. There not being much more of interest I pass on through Worksop. When about a mile out I can spy a few hives on a hill side; further on there is an old apiary in a sheltered spot, where bees have been kept for years, and where most years one can get as good a sample of honey as I ever tasted. But, alas, it has been minus this year. I call, and go inside: "Glad to see you," said the bee-man. "I have just been reading 'Bee Notes from Derbyshire'; I always look out for them." "Well, and how's the bee trade this year?" I inquire "Oh, bad," he said. "Did nought but swarm, did not get a bit of honey, and had to feed. In all my bee years I never knew a worse time, and what's more, I found three lots dead to-day. I have been cleared out three times, and if they go this time I'll bother with them no more." "Well," I said, "it's hard lines, but in such a lovely spot for bees as this, never say die."

From what he says "Isle of Wight" disease is very bad in that part. I understood him to say a man close to him in North Carlton had given £9 for two stocks last summer and both were dead. As the shades of evening are falling I leave him and retrace my steps to Worksop, where I stay the night. Monday, a lovely warm morning, so I set off to Retford. Near to Manton colliery I see them digging some beautiful new clover up to plant houses. I thought, oh my! they are robbing somebody's bees of some good forage next summer, but there had been some bad foresight on someone's part to sow a field with clover to be dug up to plant houses, and they always seem to plant houses on the best land to be found for growing crops, while a mile or two further there are hundreds of acres of forest land that won't grow anything, where I should think would be the ideal place to plant houses. I pass places on this forest land where I could dump a dozen hives of bees down, and it would be next to impossible for them to find any other flower but clover within a mile all round; thirty and forty-acre fields of it. I'll guarantee pure clover honey could be got there. But I ramble on past another lodge gate on the Clumber property. A lonely house in a wood, only house on roadside for four miles so far as I could see. Bees kept there would have to live on the trees. There may be a few blackberries amongst them, but very few of them were good bee trees, but such giants. A ride on that two or three miles under the leafy shade on a hot summer's day would be grand. They must have been growing there for ages by the size of them. At last I come to the open country again. With Checker House Station on my left, the old posting-house of Normanton Inn of stage-coach days a little to my right, I dive down an ideal country lane, where, by the look of the bushes, blackberries had been picked by the bushel, and the little bunnies had burrows in all directions. Being only a by-way to the fields, and more of a footpath than a road, cycling was anything but a luxury over that two miles, but one has to leave the more beaten track if one would get close up to Nature in all her moods.

(To be continued.)

The Age of Brood.

It is often necessary to know as nearly as possible the age of brood. When we are strengthening a weak stock we must give them emerging brood if we have it. We do not always catch sight of a nice slab with the little bees gnawing out. We can find sealed brood, and perhaps judge as to the relative age of it by signs of travel on the cappings. Sealed brood may have twelve days to go before it emerges, or it may be out in two or three. We may uncap a sample cell, and then, if instead of a grub we find a nymph, the Guide Book tells us that the worker has only seven more days to spend in the cell. Cowan takes us no further, being content to refer us to Swammerdam and Newport, who "have very graphically described all these transformations." We only know that the white nymph gradually changes colour. If the compound eyes have gone brown, the day of emergence is within the week, and so on, as the whole body grows dark. If we know our need for emerging brood well ahead, we can mark the date when we notice eggs or open brood whose age we think we can judge.—G. G. Desmond.

Foreign Bees and the Incidence of Disease.

In "Jottings from Huntingdonshire," "B.B.J." for June 9, the Rev. E. F. Hemming mentions an article in the *Scotsman* of May 27. We do not know who the writer of the article is, but it has evidently been written very thoughtfully, and will well repay earnest consideration by bee-keepers. We give the article in full as follows :—

BEE-BREEDING.

THREATENED EXTINCTION OF A VALUABLE RACE.

(*From a Correspondent.*)

The present system of bee-keeping in Britain is unsatisfactory, and it is mainly owing to the recent inflated value of the produce of the apiary, aided by the activities of the Education Authorities and the Bee-keepers' Associations, that the craft has so far retained its importance as a food-producing industry.

Home-produced honey increased in price under war conditions, assisted by the scarcity of bees to collect and store it, due to the ravages of the malady known since 1904 as the "Isle of Wight" disease. Stoppage of the importation of foreign honey was also to some extent responsible for the advance in price of the home product.

The temporary boom in the honey market has resulted in corresponding activity in the trade in bees, and for several past seasons the number of persons engaged in this branch of the pursuit has steadily increased, and now exceeds all pre-war records. Most of these bee-traders deal in foreign bees, which seem to find ready sale at extraordinarily remunerative prices.

As an indication of the present activity in the bee trade it may be noted that stocks, swarms and queens of Dutch, Italian, Carniolan, and American varieties are being freely imported and distributed to every part of the country. A very considerable number of home-bred stocks, swarms and queens are also annually sold, these lattter being almost entirely hybrid varieties of uncertain origin. A Government re-stocking scheme under which bees are distributed in various ways is also in operation.

We need not discuss here the claim to immunity from disease which some of the foreign varieties are said to possess when they arrive from abroad. There is indisputable proof that few, if any, of them retain that quality here for more than a brief period. That being the case it must be admitted that one result of the re-stocking activity is a certain heavy annual loss through a large percentage of the re-stocking bees becoming infected and dying This also assists in a great measure in fostering disease in districts where it has gained a footing. The last-mentioned evil is accentuated by a certain proportion of these re-stocking colonies being sent out from apiaries or districts where disease is already established, and it is also recorded that certain unscrupulous persons have sold bees after discovering that the latter were diseased. Under the present system and want of control the country is being to some extent re-stocked with disease.

The main result which will emerge out of this haphazard and aimless mixing of a number of races—only one of them being indigenous to Britain, and the mating of which is beyond control—can be imagined. The native race will be submerged and become extinct, and the country will be populated entirely by a race of mongrels inferior in every way to the race they have supplanted. To the many tragedies in the life of the bee will be added the greatest tragedy of all in the certain extinction of *Apis mellifica* in its native country by the action of those who should be reaping the benefits from the work of this race evolved through countless generations to suit and serve this country. This is the plain prospect unless we call a halt to this re-stocking madness ere it is too late and reconsider the position in the light of past experience. A small proportion only of the present generation of bee-keepers have any idea of what degree of success can be achieved by cultivating the native bee, because for the last half-century the race has been in process of being steadily and surely hybridised out of existence, and now only a few remnants remain pure in very isolated districts. The South of England was first to receive the infusion of alien blood in 1859, as in July of that year Italian queens were brought from Switzerland into Devonshire by Mr. Woodbury, an eminent bee-keeper of that period. Others quickly followed his example, and Italian bees became the fashion among bee-keepers of the time. Records prove the superiority of the native bee of that date over the foreigners, yet many bee-keepers, from an innate love of variety and new experience, persisted in obtaining Italians and more recently other races. These aliens interbred with the native variety without control, until at the time when attention became unpleasantly focussed on the new disease in the Isle of Wight—the majority of our stocks were of nondescript variety. It is significant to note that the first appearance of the disease was in the South, near that part of the country where the bees were first crossed, and the course of the disease followed the progress of the crossing, or introduction of aliens, in its course from South to North with remarkable regularity. Previous to the outbreak, or first discovery of the disease, old hands had begun to notice a slow but steady deterioration in the usefulness of many of our stocks, and this was attributed by some to errors in a system of crossing over which there could be no control Since the "Isle of Wight" disease appeared and began to spread, a common theory as to its cause has been deterioration of the native race of bees, brought about through the evils of inbreeding. In this article the converse is shown to be a more likely theory. The beginning of the disease followed on a quarter of a century's interbreeding between

natives and aliens. The progress of the disease has been coincident with the practice of diligent and continuous crossing. It is open to doubt whether inbreeding occurs to such an extent among bees as to cause injury or loss of vitality.

A fact which should be quite clear in the minds of our investigators is that it was a mongrel race, the product of almost fifty years of persistent interbreeding, which succumbed to the so-called "Isle of Wight" disease, not the pure-bred *Apis mellifica*, or native British bee. All that can now be claimed for recent importations of alien varieties is that they may be in some cases superior in disease-resisting power to some, but not all, of our present nondescripts. Where that superiority exists it is soon lost through unavoidable interbreeding.

It is impossible to enter into a detailed discussion of the causative agent or agents in the so-called "Isle of Wight" disease within the limits of this article. This subject may be left to the bacteriologists whose valuable and untiring efforts have already been rewarded by the discovery of at least two organisms—viz., *Nosema apis* and *Tarsonemus woodii*—which are associated with the condition recognised as "Isle of Wight" disease. That both of these were frequent and comparatively harmless parasites on bees long before the advent of "Isle of Wight" disease cannot be seriously questioned. Finality in bacteriological research work in relation to bee disease is, doubtless, a long way off, and other parasites may be found, either alone or associated with *Nosema apis* and *Tarsonemus woodii*, where symptoms indicate some form of disease.

The present position may be summarised as follows :—

1. That certain characteristics in the British bee have been materially changed during the last fifty years.

2. That such change has been caused by :—

(a) A haphazard method of selection and errors in cross-breeding.

(b) Errors in bee-keeping practice under the modern hive system.

(c) Artificially rearing queens of uncertain parentage under unfavourable conditions of season and environment.

3. Increasing annual mortality among stocks during the last decade may be attributed to some extent to lowered vitality resulting from the above change and favouring the development of pathogenetic conditions, and attack by parasites such as *Nosema apis* and *Tarsonemus woodii*.

Efforts to find a cure for such diseased conditions by killing the parasites concerned are not likely to succeed, as remedies applied, if strong enough to kill the parasite, would also have a fatal effect on the already debilitated host.

The avenue which is most likely to lead to a solution of the problem is one which, singular as it may seem, has never been seriously put to the test. That is the breeding of a pure strain of British race (*Apis mellifica*) through many generations until a distinct improvement has been secured in disease-resisting power, as well as in other characteristics, until the strain has reverted or bred back, as it were, to its original purity and vigour, with other improvements which can certainly be effected by judicious selection. This cannot be done without time and money and skilled direction, and on that account is more a scheme for the Government to operate than a private enterprise. Well-directed experiments along the lines indicated would produce valuable and far-reaching results. The only real difficulty would be in securing a suitable mating station located in a district remote from other apiaries and possible cross-mating of queens with drones from outside. Such a scheme could be managed at very much less cost than the present expensive re-stocking schemes, and with more lasting and satisfactory results.

A wise measure of legislation to check the spreading of infectious or contagious bee diseases is desirable, but of itself such a measure would not be the means of stamping out disease so long as free importation of bees from everywhere is allowed.

From the British race alone a pure strain or strains possessing the maximum number of good qualities desirable in bees can surely be produced. If it is worth while keeping bees at all, it is certainly worth while keeping the best of any race. There is no hope of any improvement under the present system of indiscriminate mixing of the good and bad of several races. Such a system is only producing more mongrels and more disease, and, if continued, will eventually bring about the complete ruin of bee-keeping in Britain.

Essex Bee-Keepers' Association.

The summer show was held at the annual meeting of the Essex Agricultural Society at Rochford on Wednesday and Thursday, June 8 and 9. The weather left nothing to be desired, and the bee shed and demonstration tent were patronised on both days by hundreds of visitors. Mr. G. R. Alder, sen., staff lecturer of the Institute of Agriculture, Chelmsford, lectured on both days to interested crowds, and answered numberless questions. In this he was ably assisted by Rev. H. Brown, of St. Lawrence Rectory, Maldon, whilst Mr. G. C. Winn, of Hornchurch, Mr. A. Gamble, Battlesbridge, and the county bee inspector, Mr. G. R. Alder, jun., rendered invaluable assistance by giving advice to numerous callers. Mr. Claridge, of Copford, lent a stock of his famous "Goldens" for demonstration purposes. These proved an immense attraction, as dozens of bee-keepers who owned Dutch stocks remarked on the gentleness of these bees, and expressed their determination to buy "Goldens" to replace their present stocks.

The exhibits, though not numerous, were of excellent quality. Messrs. E. H. Taylor, Ltd., exhibited a hive of excellent quality

and finish at 45s. 6d., but as price was a governing factor in this class they only secured second prize, the first going to Mr. Claridge for a W.B.C. hive complete at 55s. The honey was of splendid quality. Unfortunately several exhibits were disqualified for overlacing sections and for honey partly granulated in the extracted honey class. Mr. Alder, sen., acted as judge, and made the following awards :—

Best, most complete, and inexpensive Frame Hive.—1, F. M. Claridge, Copford; 2, E. H. Taylor & Co., Welwyn.

Six 1lb. Sections of Comb Honey.—1, Mrs E. Pharrall, Rayleigh.

One 1lb. Section, ditto.—1, C. H. Thomas, Stanford-le-Hope; 2, A. C. Tew, Tiptree

Six 1lb. Jars Run Honey.—1, C. H. Thomas; 2, A. C. Tew.

Three ditto.—1, C. H. Thomas; 2, A. C. Tew.

Six 1lb. Jars Granulated Honey.—1, F. M. Claridge; 2, C. H. Thomas.

One 1lb. Jar Run Honey.—1, C. H Thomas; 2, A. C. Tew.

Display of Honey.—1, A. C. Tew.

Wax.—1, L. Belsham, Heybridge; 2, A. C. Tew.

Any Useful Invention of Exhibit Connected with Bee-keeping.—1, A. C. Tew; 2, F. M. Claridge.

The British Bee-keepers' Association's silver medal for the competitor obtaining the highest number of points was won by A. C. Tew. The winner of the bronze medal was C H. Thomas

(Communicated.)

Hants and Isle of Wight Bee-Keepers' Association.

The above association held a show at Bournemouth from June 7 to 10 in connection with the Royal Counties' Agricultural Society Show. There were some excellent exhibits of hives and appliances, and nearly 3cwt. of honey was exhibited in the various classes.

Practical lessons and demonstrations were given by the following gentlemen, Mr. E. H. Bellairs, Mr. F. D. Hills, Mr. S. C. Leigh, Rev. G. Field and Mr. H. P. Young, the County Council expert, and the popularity of bee-keeping was evident from the large crowd which gathered around the tent during the lectures.

Mr. E. H. Bellairs acted as judge, and made the following awards :—

(1) *Largest and Best Collection of Hives and Appliances.*—First, Mr. A Frampton, New Milton; Mr J. E. Pinder, Salisbury.

(2) *Best Observatory Hive.*—First, Mr A. Frampton, New Milton.

(3) *Best Hive, unpainted, price not to exceed 50s.*—First, Messrs. Steele & Brodie, Wormit; second, Mr. A. Frampton, New Milton; third, Mr. J. E. Pinder, Salisbury.

(4) *Best Cottager's Hive.*—First, Messrs. Steele & Brodie, Wormit; second, Mr. A. Frampton, New Milton.

(5) *Best Recent Invention.* — Bronze medal, Messrs. E. H. Taylor, Ltd., Welwyn. (The Cambridge Floor-board.)

(6) *Best and most attractive display of Honey and Wax.*—First, Mr. J. J. Kettle, Corfe Mullen; second, Mr. E. C. R. White, Winterbourne Gunner.

(7) *Best 12-lbs. Super Honey in 1-lb. Sections.*—Silver medal, Mr. H. P. Young, Alton; Bronze medal, Mr. J. J. Kettle, Corfe Mullen.

(8) *Best 6 lbs. Super Honey in 1-lb. Sections. (This year's produce).*— First, Mr. S. C. Ford; second, Mr. S. Leigh, Broughton; third, Mrs. B. J. Pond, Blandford

(9) *Best 1-lb. Section. (This year's produce.)*—First, Mr. S. Leigh, Broughton; second, Mr. H. P. Young, Alton; third, Mrs. B. J. Pond, Blandford.

(10) *Best 1-lb. bottle extracted Honey. (This year's produce.)*—First, Mr. S. Leigh, Broughton; second, Mr. E. C. R. White, Winterbourne Gunner; third, Mr. J. J. Kettle, Corfe Mullen.

(11) *Best 12 lbs. extracted Honey.*— First, Mr. H. P. Young, Alton; second, Mrs. B. J. Pond, Blandford; third, Mrs. L. Hines, Twyford; Mr. F. D. Hills, Alton.

(12) *Best Beeswax.*—First, Mrs. A. F. Pearson, Bishop's Waltham; second, Mr. E. C. R. White, Winterbourne Gunner; third, Miss K. E. Harwood, Salisbury.

Twickenham and Thames Valley Bee-Keepers' Association.

The Association's apiary in London Road, Twickenham, was the scene of a successful "At Home," held on Saturday, June 11. Nearly a hundred members and friends attended, including the President, Sir William Joynson-Hicks, Bart., M.P., and his daughter. An observatory hive, lent by Mr. E. Howick, was a constant centre of attraction, but the principal object of interest was the hive referred to in Mr. Burnet's letter which appeared in the B.B.J. of June 9 (page 263). Mr. W. Herrod-Hempsall, who attended to give a demonstration, selected this hive for his manipulations, and in a very few minutes set the question of the two queens at rest. Both were placed upon the same comb and several photographs of them were taken. Tea was served during an interval by some of the lady members, and the gathering was in every way most enjoyable and instructive. R. Dixon Box.

[We have known two queens to live amicably together in one hive for a short time, but we imagine these two have created a record —Eds.]

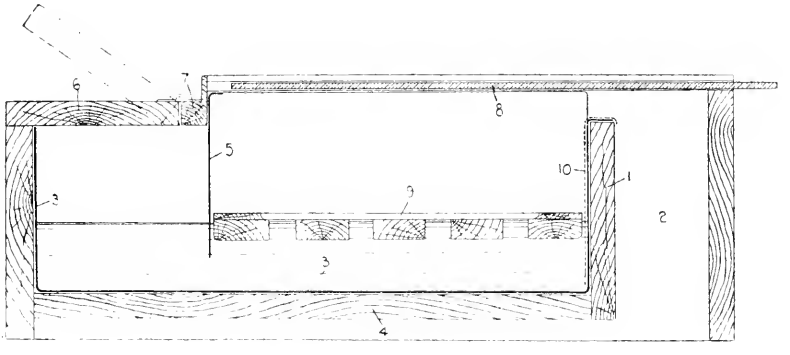
No Beds. Bee-Keepers' Association.

As there is not an association in Bedfordshire I have enrolled several bee-keepers just over the border in the Bucks B.K.A. If anyone restarted the association I should be pleased to hand over same, but am pleased to enrol anyone a mile over the boundary of Bucks.—A. E. Warren, Simpson, Bletchley.

Novelties for 1921.

AN IMPROVED FEEDER.

The improved feeder which is shown in vertical longitudinal section in the accompanying drawing consists of a rectangular wooden box or frame having a transverse wooden partition, 1, that divides the box or frame into a relatively small compartment, 2, and a larger or main compartment in which is fitted a removable tin liner, 3. The small compartment, 2, is open at the bottom, but the larger compartment has a bottom, 4, located sufficiently above the lower edges of the walls of the box or frame to provide a bee way over the frames when the feeder is in use. 5 indicates a partition in the liner, 3, which separates the main feeding compartment from the filling compartment, which is provided with a lid, 6, hinged to a removable cross member, 7, that may be normally secured as by screws to the side walls of the box or frame. 8 indicates a glass lid mounted



AN IMPROVED RAPID FEEDER.

to slide in grooves formed therefor in the side walls of the box or frame, and extending over the compartment, 2, and over the main feeding compartment in which is arranged a float, 9, constituted by a thin board formed with a number of parallel saw cuts and strengthened by battens as shown. 10 indicates perforated tin, which may be fitted against the wall of the liner near the compartment, 2, to provide a foothold for the bees which pass up through the compartment, 2, and over the upper edge of the partition, 1, into the feeding compartment, within which is the float, 9. The compartment, 2, may have candy placed in it when syrup feeding is completed, so that the feeder may be left in position all the winter if desired.

The feeder may be obtained from Mr. E. O Dennis, 11, Clarence Road, Bowes Park, for whom it is being made by wounded ex-soldiers. The price of the six-pint size is 6s. 6d., postage 1s. This size has been emptied of syrup in less than 12 hours by a good colony of bees.

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Cells Built Wrong Way Up.

[10467] Last week-end, when examining one of my stocks, I had to remove a large piece of comb which the bees had built down from a feeder platform left on top of frames.

It is drone comb, and has an egg in practically every cell, and it was while examining these closely I thought that I noticed a peculiarity about the cells, but it was not until some hours afterwards, when counting the cells roughly, that I "tumbled" to what was wrong.

The comb is in two parts now, but was originally one piece, with a join down the centre. One half is built quite as usual, but the other is built with the cells the wrong way on.

Seeing that you point out in the "Guide Book" that care should be taken to note the right and the wrong way when fixing foundation, I thought the fact that my bees themselves had made a mistake might be of general interest.

If it is a sufficient novelty to be worth placing with your others (of which, I presume, you have a collection), I will forward it on to you, or perhaps a photo would be of more use.

I kept bees for one season as a lad of 14, but only started again with a small cast (which settled on the gear-box of a lorry) and a driven lot last July, and as I am now 30, I have lost 16 years of pleasure among the bees.

The cast has filled a skep and are now on eight frames of comb, and the driven lot are

on ten, and ready for making into a double brood-chamber stock, so I have hopes of knowing something about bees by the end of the season.—E. B. COOKE.

[If left to themselves, bees will build the cells in all positions, as may be noted in a skep, or box hive. In this connection man has "improved on Nature," as there is no doubt the comb is stronger if the parallel sides of the cells are vertical instead of horizontal, as illustrated on page 67 of the "Guide Book."—EDS.]

Stings.

[10468] Being a regular reader of your valuable little journal, I have often thought I would like to be able to contribute a line or two now and again, but every time courage has failed me, but I cannot let this occasion escape me, or else I shall feel I have not done my duty to some unfortunate bee-keeper, that, according to reports in the journal's columns, suffers very much from the effects of connection with our little friends. It is to help these people that I have written this letter and sent a cutting from the *Children's Newspaper*, though not being blessed with the power to "tell the tale" as our friend Kettle does. That is where most of us are found wanting; of course I don't mean to say that friend Kettle does nothing else but "tell the tale," for I think he is a very practical man as well, and I must say I have gathered some very useful information from his "yarns."

One other thing I should like to mention. My heartiest appreciation to our Scottish friends, who so freely have told the *world* what they have been able to ascertain in their research work on bee disease. I think that the least we as bee-keepers can do is to subscribe a little (if not all) to the cost of same.—J. W. CADMAN.

The cutting is as follows:—

WASP STINGS AND BEE STINGS.
BY OUR NATURAL HISTORIAN.

The wasps and bees have been out again in the November sun, and we are reminded that one of the scientific surprises of the year has been supplied by the wasp.

Everybody who had thought at all about the subject believed that the sting of the wasp and the bee and the bite of the ant were pretty much the same, introducing into our flesh the same formic acid. But an Oxford Master of Arts, Mr. Edward R. Speyer, tells us that we are wrong, and that a great discovery has been made.

Experiments have proved that the sting of the bee is undoubtedly *acid*, but that of the wasp is *alkaline*. Let us see what this means.

The alkalies proper are potash, soda, lithia, and ammonia. The first three are oxides of metals; ammonia is a compound of nitrogen, hydrogen, and oxygen. An acid is a chemical compound, generally sour in taste like vinegar, and differs altogether from the bitter mineral flavour of an alkali, of which common washing soda may be taken as an example. Acids turn vegetable blues a red colour; alkalies turn vegetable blues green. How does this help us in regard to the stings of wasps and bees?

Well, if we are stung by a bee, we are the victims of an injection of irritating acid, and the cure is an alkali; therefore we rub on ammonia. But when we are stung by a wasp it is an alkali that hurts us, and the cure is an acid—so that we must not use ammonia. Alkali to master the acid sting of a bee; acid to master the alkali sting of a wasp. What acid should we use for the wasp-sting? An onion, peeled and raw, cannot be beaten.

It is of first-rate importance to us to know this, for lives are lost through wasp stings. As in the case of an adder's bite, the progress of the after-effects depends largely on the health of the patient, and, still more, perhaps, upon the strength of his or her nerves.

The nervous person may succumb through fright to a wasp-sting, but there is one danger to which even the strongest-nerved are open. Wasps may get into the food we eat and drink, and may be taken unperceived into the mouth. Now to apply the old alkaline remedy to the tongue increases the effect of the poison, and may cause death by suffocation.

Let us remember this rule: an acid cure for alkaline; alkaline for acid; or

An onion for a wasp sting.
Ammonia for a bee sting.

Specific for Isle of Wight Disease?

[10469] I have just been spraying and treating a neighbour's fine stock of bees which has just begun to exhibit marked symptoms of I.O.W. disease, and it has suddenly struck me as a "brain wave" that possibly Collosol Iodine might prove a specific in this, as it undoubtedly is in human ailments that are due to vitiation of the system by such diseases as enteric, sepsis, scarlet fever, etc. It is a brand new preparation, and, though patent, is obtainable from any good chemist. It is taken *internally*, and is perfectly harmless. I suggest you ask some medical bee-keeper to experiment with it. I will certainly try it on any bees of mine that become affected. — H. W. KETTLEWELL, LT.-COL.

Comb Built Upwards.

[10470] In examining one of my stocks to-day (Italian-Dutch) I discovered a comb being built upwards. There is a rack of shallow frames over the brood chamber fitted with full sheets of foundation, the frames being spaced with wide ends. The bees have started to draw out the foundation, but between two of the frames they have built a comb reaching about two-thirds the height of frame with the base resting on the excluder. There is no question of its being suspended from the quilt and having broken away, as the top of the new comb is semi-circular and has a thin edge.

I discovered another curious thing when spring-cleaning a Dutch stock some weeks ago. The frames are hung parallel with the

front of hive, and between the bottom bar and floor board, and joined to both was a sheet of material, apparently composed of propolis and wax. This was slightly wider than the entrance and appeared to have been constructed to stop a direct draught.

I thought these two occurrences of sufficient interest to write to you about.

I have a quantity of centaurea (perennial variety), commonly called Batchelor's Button, in my garden, of which the bees seem very fond. As it keeps blooming all the summer other bee-keepers might like to know of it.—WM. A. DANIELS.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d. up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 23, 1921, at Doncaster.—Open Classes for Honey and Wax.—Schedules from F. H. Chafer, 9, Market Place, Doncaster. Show will not take place.

June 28 to July 2.—Derbyshire Bee-keepers' Association's Show in connection with the "Royal" at Derby. Open Classes, good cash prizes and gold medal offered.—Schedules, apply F. Meakin, 37, Pybus Street, Derby. **Entries close June 20.**

July 13, at Shedfield.—In connection with the Shedfield Horticultural Society's Show. Open to all bee-keepers in the area of the Swanmore and Bitterne branches of the Hants and Isle of Wight Bee-keepers' Associations. One Open Class for all bee-keepers in Hampshire.

July 13.—Wickham Bishops and District Bee-keepers' Co-operative Association. Group 2: Open to bee-keepers resident in Essex. Class 80, four sections, 1st prize, 7s. 6d.; 2nd, 5s. Class 81, 1 lb. extracted honey, 1st prize, 5s.; 2nd, 3s. Class 81a, cake of beeswax, ½ to 1 lb. weight, 1st prize, 5s.; 2nd, 3s. Group 3: For bee-keepers resident in the British Isles. Class 82, 1-lb. glass jar of 1921 run or extracted honey, 1st prize, 20s.; 2nd, 10s. 6d. Exhibits in Class 82 to be the property of the Association, and will be distributed among hospitals in the County of Essex. Entrance fee 6d. per class. Rules for exhibiting on back of entry form.—All entries to be sent to R. A. Pelly, Hon. Sec., Wickham Bishops, Essex. **Entries close on July 6**

July 20, at Alexandra Recreation Ground, Surbiton.—Surrey B.K.A. Show. Twenty Classes. Two Challenge Trophies, ten Silver, and 15 Bronze Medals. Eight Open Classes.—For Schedules apply Hon. Sec., W. E. Hamlin, 43, Norbury Court Road, Norbury, S.W.16.

July 21, at Bath.—Somerset Bee-keepers' Association's Show in connection with the Larkhall Horticultural Society's Show. Several Open Classes.—Schedules apply Mrs. Wallace, 151, Newbridge Hill Bath. **Entries close July 16.**

July 20 and 21, 1921, at Cardiff.—Cardiff and County Horticultural Society's Show, Sophia Gardens, Cardiff. Bee section under the auspices of the Glamorgan Bee-keepers' Association. Open Classes.—Schedules to be obtained from the Hon. Secretary, Chas. F. Davies, 5, Borstal Avenue, Cardiff.

Saturday, July 30, and Monday, August 1, 1921, at Lichfield.—Lichfield Floral and Horticultural Society's Show. Bee and Honey Section under the auspices of the Staffs Bee-keepers' Association. All classes open.—Schedules may be obtained from the Hon. Secretary, A. H. Perrins, 30, Tamworth Street, Lichfield, Staffs.

August 20, 1921, at Ammanford.—Carmarthenshire B.K.A., in connection with Ammanford and District Horticultural Show. Silver and Bronze Medals for Members' Classes. Open Classes for Honey, Wax, etc. Good prizes.—Schedules from W. Comery, 15, New Road, Ammanford. **Entries close August 17.**

September 17 to 23.—British Bee-keepers' Association Annual Show at Grocers' Exhibition, Royal Agricultural Hall, Islington, London. Entries close September 5. Schedules from Hon. Sec., B.B.K.A., 23, Bedford Street, Strand, London, W.C.2.

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 7s. per ¼in., or 12s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens** *that are reared or imported for sale, are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on MONDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

SIX STANDARD HIVES AND SUPERS, practically new, for Sale reasonable; free from disease; owner giving up business.—B. BRADRIDGE, Yate Court, Bristol. q.89

DARK HONEY for Sale, suitable for manufacturing purposes. What offers? Sample on application. — MRS. YARRAD, The Laurels, Swaton, Folkingham. q.90

LARGE 15-FRAME HIVES, consisting of stand and floorboard, brood box, with dummy, 9-in. outer lift, and pitched roof, stoutly constructed of best redwood, painted two coats (white), 45s. 6d each. carriage forward. — WADDINGHAM, Habrough, Lincs. q.91

SWARMS FOR SALE, Hybrid Italians, 22s. delivered; box returnable.—A. K. THOMPSON, Crofthouse, Sandiway, Cheshire. q.92

SECTION HONEY wanted, best quality.—Apply, T. SMITH & CO., 17, Cambridge Street, Hyde Park, W. r.q.93

DOUBLE CONQUEROR HIVE, two brood boxes and six supers, built by Simmins three seasons ago, for Sale, price £8 delivered.—BROMWICH, Dale Bank, Ashover, Chesterfield. q.94

FOR SALE, one British Queen, 1921, healthy. 5s.—MISS LOWE, Hinton St George, Crewkerne. q.98

ONE Italian Hybrid Queen, 1921, for Sale, prolific, healthy.—CROWE, Merriott, Crewkerne. q.99

FOR SALE, pure Light English Honey in 28-lb. tins, £9 per cwt.; sample 6d.—JAMES STARLING, 5, Bowers Lane, Isleham, Cambs. q.102

STILL OVERSTOCKED. — Strong, healthy Stocks, Dutch and Italian Hybrids, 8 frame. £2 16s.; 6 frame, £2 2s.; ready now.—REV COOPER, St. Paul's, Ealing. q.101

400 ROOTS' 2-way Sections, 6s. 3d. per 100; 100 4-way grooved split, 8s. 3d.; five Taylor's Registered Excluders, used once, 2s. 3d each; all post free.—VIDLER, Pevensey, Sussex. q.103

THREE 10-framed Stocks, Italian Hybrids, 1921 Queens, immediate delivery, carriage paid.—O. C. KNIGHT, Hoggs Hill Cottage, Crawley. q.104

ROOTS' STANDARD HIVE, complete with ten Hoffman Bars. Bees and Brood direct from the best honey-gathering strains in America, healthy and disease resisting, £6 6s., carriage paid.—GEARY, Florist, Barwell, Hinckley. q.105

FOR SALE, two Stocks Bees, 9 and 10 frames, in hives.—FISH, 18, Brackley Road, Chiswick, W.4. q.106

BUY some "Palestine Bees" and make sparkling, invigorating wine; no trouble; Bees 1s. 6d dozen.—MISS BOND, 93, Freehold Road, Ipswich q.108

TEN FRAMES NOT ENOUGH FOR THE MODERN QUEEN.

FOR SALE :—

Ten brand new unused 15-frame Telescopic Hives by Lee, fitted with roofing to last eight years, adjustable ventilator in floorboard, metal runners, detachable porch, and 11-in. lifts.

Ten Lee's Shallow Frame Racks, fitted with metal runners complete, with eight frames fitted with W.B.C. ends, wired and drone comb.

Ten Lee's Section Racks, fitted complete with sections.

15 lbs. pure Wax Section Squares, thin super

500 A1 Root Split and Grooved Sections.

Two W.B.C. Hives and Lift, new last season.

200 new Standard and Shallow Frames, wired and fitted full sheets "Weed" foundation and W.B.C ends.

48 Wired Shallow Frames.

24 Travelling Queen Cages.

Veil, Smoker, Gloves, etc.

400 1-lb. Honey Pots.

400 ½-lb. Honey Pots.

Carriage forward; crates 10s., returnable. Best offer for whole or part. Immediate delivery.—ASHLEY, Lincoln House, Teddington. q.118

EXCHANGE, new Bee Appliances for good Swarms.—35, Tharp Road, Wallington, Surrey. q.80

SWARMS, good stuff, prompt despatch, 35s.; boxes and carriage free.—AVERY, Deverill, Warminster. q.81

CHAIN GEARED EXTRACTOR by Lee, nearly new, 70s.; several sets drawn-out Shallow Frames of comb and W.B.C. ends, clean, 10s. 6d. set, with crate 12s. 6d., carriage extra.—W WOODS, Normandy, near Guildford. q.82

A FEW STOCKS OF BEES for Sale, guaranteed healthy and strong, with 1921 Italian Queen. £4 4s.—WIGGINS, The Bungalow, Norton Road, Wembley. q.66

FOR SALE, drawn-out Brood Combs, standard frames, good condition, 12s. dozen, carriage forward.—THATCHAM FRUIT FARM, Newbury q.67

ITALIAN VIRGINS.—Surplus, pure, naturally raised Penna Virgins, 5s.—Stamped address, HEADMASTER, Grammar School, Doncaster. r.q.63

BARGAIN. — Fine Swarm, Stock in hive, sundries; offers.—FISH, 89, Middle Lane, Hornsey, N.8. q.29

WANTED, as a whole or any part of the following :—A 2 or 2½ H.P. Oil or Petrol Engine, with the necessary dynamo, accumulators, switchboard, wire, switches, bulbs, and other necessary fittings for lighting house with electricity; also 2-in. Force Pump for well 90 ft. deep with overhead apparatus to be driven by above engine.—W. HERROD-HEMPSALL, Old Bedford Road, Luton, Beds. r.q.31

FOR SALE, good 10-comb Stocks of Bees, £3 10s.; box, returnable, 10s., not carriage paid; cash £4 with order, 10s. returned upon receipt of empty box.—Box 34, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. q.57

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TWO NUCLEI, Hybrids, best strain, at 32s. 6d. each; satisfaction assured.—PRESSEY, St. Elmo, Coulsdon, Surrey. q.95

ITALIAN QUEENS DIRECT FROM ITALY.—Special offers from July 1 till countermanded: Four Queens at a time £1 8s. Cash with orders. Payment by cheques or British Postal Orders. International Money Orders are not accepted. Safe arrival guaranteed.—Address, ENRICO PENNA, Bologna, Italy.

FERTILE ITALIAN QUEENS, by return of post, June 10s. 6d., July 8s. 6d.—PEARSON & GALE, Marlborough. r.q.96

ITALIANS.—Queens, 8s.; Nuclei, 35s.; Stocks.—HOUSTON, Ellen Villa, Sidcup. r.q.97

STRONG 3-FRAME NUCLEI with two frames of brood, one stores, 1921 fertile Queen, 35s.; box 6s., returnable. Cash with order or deposit. Having purchased an apiary, can offer 8- to 10-frame Stocks from £3 5s.; good Standard Frame Hives from 10s.; numerous Appliances, including Extractor, cheap; state requirements. — W WOODS, Normandy. q.109

HARDY Italian 10-frame Stocks, ready for supering, £4; Nucleus, 4 frames £2, 6 frames £3; no disease or winter losses. — LILLEY, Lamarsh, Bures, Suffolk. q.110

TWO 3-FRAME NUCLEI, Italian-Dutch, no disease, satisfaction guaranteed, 45s., carriage forward; 10s. on box, returnable; immediate despatch.—H. W. SLACK, Ockbrook, Derby q.111

CARNIOLANS.—Book now for July delivery: fertiles 10s. 6d., virgins 5s. 6d.—J. E. SWAFFIELD, Haselton, Glos. q.112

ITALIANS.—Strong 3-frame Nuclei, 37s. 6d.; 4-frame, 45s.; immediate delivery; case returnable.—H. BOWREY, Swallowfield, Reading. q.113

GLASS SQUARES for glazing sections, 4s. 6d. 100; Glass Quilts, 16-in. square, divided, with feed hole, 3s. 9d. each; packed free.—SMITH, 117, Gt. Hampton Street, Birmingham. r.q.115

IMMEDIATE DELIVERY.—4-frame Nuclei, 50s., 6-frame Stocks, 70s.; box 10s., returnable.—LEE, The Beeman, Burgess Hill, Sussex. r.q.126

20 3-FRAME NUCLEI, ready for immediate delivery, 1921 Queens, 35s., carriage paid; box 10s., returnable.—TICKELL.

20 STRONG 6-FRAME STOCKS for immediate delivery, 1921 Queens, 70s., carriage paid; box 10s., returnable.—TICKELL.

FERTILE QUEENS.—Italian, 11s.; Italian Hybrid, 10s., by return.—TICKELL.

VIRGIN ITALIAN QUEENS, 4s., by return.—TICKELL.

VIRGIN ITALIAN HYBRID QUEENS, 3s., by return.—JACK TICKELL, Westbourne Apiary, Bee Farm, Cheltenham. q.114

IT'S IN THE CANDY.—The coal strike is still interfering with our plans for laying old Tarsonemus by the heels. So we have put it in the Candy. 6 lbs., 10s., post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.116

WE can use one or two Pupils in our apiary. Terms and particulars on request.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.117

"LAZENBEE" HONEY QUEENS ensure large surplus; fertile 10s.—YOUNG, 100, Elms Apiary, Sudbury, Middlesex. "Lazenbee" 10-frame Stocks, £4; Nuclei, 30s. q.119

A BIG FAVOURITE.—The Anniversary Number of *The Bee World* (mid-June) appears in no less than 42 pages, with over 30 pages of literary matter, profusely illustrated. Contributions from eminent bee-keepers everywhere. Grand publicity section with important announcements from leading national and international firms. The latter alone are worth your perusal. 9d. per copy (hand delivered), or 10½d. post free from "B.B.J." Office, newsagents, appliances manufacturers, or direct from the Publishers. Members of Associations affiliated to *The Apis Club* can obtain it from their Secretaries at 6d. per copy (hand delivered), or 7½d. post free. *Don't miss your opportunity!* q.120

3-COMB NUCLEI on Adminson's semi-comb, July delivery, £4 4s. each; box 10s., returnable.—GEORGE, Oak Drive, Oswestry. q.121

HEALTHY ITALIAN HYBRIDS, gentle, great honey-getters; Stocks, Nuclei, moderate.—SMITH, 5, Florence Terrace, East Cliff, Ramsgate. r.q.123

THE SOMERSET "RE-STOCKING" COMMITTEE has several 4-frame Nuclei for Sale, 1921 Queens, specially selected strain, price 40s per nucleus; cash with order; 10s. deposit for travelling box.—Apply, BIGG-WITHER, Birdwood, Wells, Somerset. q.124

10-FRAME STOCKS of Italian Bees, ready for supering, £4 4s., carriage paid.—ROPER, Thorpe-on-the-Hill, Lincs. q.122

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2S. SECURES "Safety" Introducing Cage for virgin-fertile queens; rarely fails.—BOWEN, Cotswold Queen Breeder, Cheltenham. q.88

SERVICE AND COURTESY.—Recipe No. 1. Your bees are crawling in a single brood chamber stock. Dissolve one Flavine—S Powder (1d.) in one pint of sugar syrup, and pour one tablespoonful over each seam of bees between the combs. Repeat the dose after eight days, and please report results.—SMITH, Cambridge. q.45

FOR SALE, Italian Hybrids, Nuclei or Stocks. 6s. frame; fertile young Queens, Swarms in skep, 30s.; Hives, 15s.; or offers exchange.—F. SOFTLY, Letchworth, Herts. q.125

ROYAL AGRICULTURAL SHOW, DERBY.—We shall be pleased to send a *plan of the show ground* free to any who care to apply.—E. J. BURTT, Manufacturer, Gloucester. r.q.46

PURE ITALIAN QUEENS, fertile, bred in Devonshire, no blacks within miles, May, 12s.; June to August, 10s.; September, 8s.; Virgins half price; Nuclei, 3-frame 50s., 4-frame 63s., carriage paid. Send cash with order for Queens, or 10s. deposit for Nuclei. Special terms to members of the N.D.B.K.A.—TATTERSALL WILLIAMS, The Apiary, Braunton. r.p.71

HYBRIDS, Italian (Penna's) and British strain (disease resisters for 60 years), 3-frame Nuclei, 1921 Queen, 42s., August 37s., cash, carriage paid; also Swarms; satisfaction guaranteed; references to satisfied customers.—MOORE, 31, Monmouth Road, Dorchester. r.q.72

PURE ITALIANS, 3 frame, 2 gs.; 4, 2½ gs.; Hybrids, 4 frames, £2; Queens, 1921, pure, 10s.; Stocks, 8s. frame.—HENSLEY, Luton Apiary, Queen's Road, Chatham. q.78

QUEENS.—1921 fertile Italian Hybrid, by return of post, prolific and energetic strain, price 8s. 6d. each.—HOSEGOOD, 26, Purley Park Road, Purley, Surrey. r.q.60

STRICTLY BUSINESS. — Free samples of Flavine—S; a Japanned Sprayer, 6s.; one dozen Flavine—S Powders, 1s.; "Let the Bees Tell You," 2s. 6d.; all post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.44

PURE fertile 1921 Italian Queens, imported latter half June, 8s. 6d. each, the equal of any imported queens sold; cash with order.—DAVIDSON, Forest Road, Burton-on-Trent. q.47

GENUINE DUTCH BEES IN SKEPS.—I will book orders for delivery April, 1922, £3 to £3 10s. per skep delivered; 4s. deposit each skep ordered. Bankers: Lloyds Bank, Borough Road Branch, Burton-on-Trent. — DAVIDSON, Forest Road, Burton-on-Trent. q.48

PURE ITALIAN or Hybrid Nuclei, healthy and quiet, excellent strain, 3 frames, 42s.; buyer pays carriage.—BALE, 1, Hodford Road, Golders Green, N.W. r.q.53

THREE 4-FRAME ITALIAN NUCLEI with 1921 mated Queens, £2 10s. each; also two very powerful 10-frame Stocks, 1920 Queens, £4 each. The above are of excellent strain, great honey producers, healthy, quiet, and in first-class condition; immediate delivery; carriage paid.—A. H. BARTLETT, High Street, Crowthorne, Berks. q.24

WIRE CLOTH EXCLUDERS, 18 in. square, 2s.; Syphon Drinking Fountains, 3s. 6d.; Syphon Syrup Feeders, 3s. 6d.; Swarm Catcher great success, 3s. 6d.; all post extra.—BUCKINGHAM BROS., Warwick Road, Luton. q.9

THE QUEEN PAR EXCELLENCE is the Golden Prolific Italian—no soft imported goldens tolerated. Booking rapidly, Queens and Nuclei.—E. COOMBER, Specialist Breeder, 64, Ronald Park Avenue, Westcliff-on-Sea. q.100

WE'VE HAD A S'WARM TIME.—Swarms of Bees, swarms of Bee-keepers; some, like the foolish virgins, were not properly equipped, and thereby lost their swarm. Moral: Hives first, swarms after.—Order at once from STEEL, West Ashling, Chichester. r.q.27

STRAW Bee Hives and Straw Caps for supering, wholesale and retail. Prices on application.—LAWRENCE, Lilley, Luton, Beds. r.p.121

Fertile Italian Queens. June 10/6. Satisfaction guaranteed. PEARSON & GALE, Marlborough

STOCKS on 10 frames, Italian Hybrid, "in the pink," £5, carriage forward; box 10s., returnable.—ALF. RYALL. q.58

"WIGHT" DISEASE.—Prevention and removal. Invaluable advice, 5s. 6d. "An eye-opener."—ALF. RYALL, Whiteway Apiary, near Camp, Stroud r.n.169

BALDWIN'S BEES.—Three-frame Nuclei, carriage paid, 35s.; Hybrid Queens, 8s. 6d.—THE APIARY, Bromley, Kent. q.15

28TH YEAR.—Finest 3-frame Nuclei, with pure 1921 Italian Queens bred from selected imported mother, 65s., carriage paid; 10s. refunded for box when returned; Fertile Queens, 10s. each, June delivery. Satisfaction guaranteed.—W. ROBERTS, The Thorne Apiaries, Ninfield, Battle, Sussex. r.p.70

1921 PURE FERTILE ITALIAN QUEENS, guaranteed direct from Penna. Regular supplies throughout the season commencing May 7. These genuine Italian Queens need no recommendation. Price, 13s. 6d.; selected, 15s.—GOODARE, New Cross, Wednesfield. r.p.35

E. TORTORA, Bee Breeder, Ozzano, Emilia (Bologna), from 15th to the 30th June offers Queen Bees as a sample for 5s., carriage paid. Send for 1921 Catalogue. q.1

ITALIAN QUEENS, young, fertile, purely mated, disease free; safe arrival guaranteed; 8s. each Queen; special offer, four Queens £1 8s.—GAETANO PIANA, Castel San Pietro, Emilia, Italy. r.l.83

"THE BEE WORLD."—*The "winged" paper that circulates. It is read, re-read, and treasured.* Will it not appeal to you? Specimen copy post free.—Publishers: THE APIS CLUB, Benson, Oxon. r.o.36

EXCEPTIONAL OFFER.—*Adminson's Breeder Hive*, fitted with ten standard aluminium semi-combs, costs £4 2s., carriage forward. Worth double this price.—For Adminson's Hives and Appliances write to JAMES LEE & SON, LTD., Uxbridge. r.n.23

TESTED QUEENS from June 15. One for 10s., three for 28s. 6d., five for 47s. Pay half now and save 5 per cent.—BEE SUPPLIES & PRODUCTS ASSOCIATION, LTD., 39, Wandle Road, S.W.17. r.o.85

"THE APIS CLUB."—If you have a live interest in bee culture as a science and a craft, you should join THE APIS CLUB. Membership fee, 10s. 6d. per annum, and includes the free delivery of "THE BEE WORLD" as published.—For advantages of membership write to the Secretary, THE APIS CLUB, Benson, Oxon. r.o.37

ITALIAN QUEENS, home bred, hardy, prolific strain, end of May-June, 12s.; July, 10s.; Virgins, 5s.—MISSES PALING & PILLANS, Golden Square, Henfield, Sussex. r.p.67

1921 PURE CARNIOLAN QUEENS.—Whether home-bred or imported, our Carniolan Queens are derived from Jan Strgar's famous Alpine strain, for which we have the *Sole Agency* in the United Kingdom. Price (from June onwards), 17s. 6d. per Queen; safe delivery guaranteed. A decidedly modest outlay on an investment which more than repays.—ADMINSON, LTD., Benson, Oxon. r.n.54

THE
British Bee-Keepers' Association.
Insure *now* against loss by damage done through bee stings. All particulars from
W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

ENSURE a good honey crop this year by purchasing our noted 6-frame Italian Stocks. Catalogue free on application.—PEARSON & GALE, Marlborough. r.n.173

DUTCH BEES.

¶ To keep bees profitably, when bee diseases are still rampant, is a problem which for long remained unsolved until the introduction of Dutch bees on an extensive scale in this country, and the increase of knowledge regarding their proper management. To any reader of the JOURNAL I shall be pleased to forward interesting literature and price list on application.

¶ Characteristics: Dutch bees are credited by all impartial critics with splendid prolificness, eminent suitability for comb honey production, and fitness for use with large hives; and, above all, their remarkable resistance to *Acarine disease*, as confirmed by recent research (see Dr. Rennie's Report, pp. 747-751).

¶ Supplies: (1) Skep colonies, with full combs, strong and guaranteed healthy. Each £4, carriage paid. *Immediate delivery.*

NOTE.—These are *not* small driven lots with half depth combs.

(2) Ten-comb stock in "Cumbernauld" hive, with excluder and crate of sections, £6 10s., carriage *forward*. *Immediate delivery.*

¶ References: "Those who fancy this variety cannot get them from a better source than 'Orme Lodge Apiary,' Mr. Whyte is Agent for the best known and largest bee-keeper in Holland, Hans Matthes."—The B.B.J., March 10, 1921.

"The championship of the Dutch bee, for which Mr. Whyte is known, receives an illuminating tribute in his catalogue, which is a literary and practical treatise on this hardy race of bees."—The *Bee World*, April, 1921.

R. WHYTE, Orme Lodge Apiary, Cumbernauld, Dumbartonshire.

GORDON ROWE, 28a, Moy Road, Cardiff. SELLS CALIFORNIAN AND COLONIAL HONIES, carriage paid, tins and cases free, and pure Beeswax. Buys home-produced Run Honey, Sections, and Beeswax. All samples 1s. each. Terms, cash. Honey Parchments, stamped pure honey, 2 lbs., 14s.; 1 lb., 9s. 6d.; ½ lb., 7s. per 100; 500 lots carriage paid.

The products of the Apiary, of Poultry and Farm Stock, of the Fruit and Vegetable Garden can be Advertised and Sold through
THE
BAZAAR, EXCHANGE & MART
Newspaper.
Get a Copy—Thursday and Saturday 3d. The "Bazaar" publishes also practical handbooks by experts. Send for full catalogue, post free from—**WINDSOR HOUSE, Breams Buildings, LONDON, E.C.2.**

Legislation in Switzerland.

Switzerland is acknowledged the world over as a progressive bee-keeping country. The standard of its apiaries is decidedly unsurpassed. Selective breeding and legislation for bee diseases, apart from general education, have achieved this.

About a year ago, when reviewing *Jahresbericht über die Faulbrutversicherung des Vereins Schweitzer Bienenzüchter pro*, by F. Leuenberger, we remarked:—

This is the twelfth annual report of the results obtained in German-Switzerland as the result of legislation and insurance. There was a large increase in the number of bee-keepers insuring amounting to 1,024, with 16,684 colonies. Thus they have reached the record number of 14,684 compulsorily insured apiaries containing 162,346 colonies.

During the year foul brood was found in 89 apiaries, 70 of which belonged to members of the Association and 19 to non-members. The percentage of foul brood cases is 0.5 per cent., or one colony in every 200. The highest percentage of disease is found in the following cantons:—Valais, 6 per cent.; Glarus, 2.9 per cent.; Bale, 1.1 per cent.; Lucerne, 0.8 per cent. It is satisfactory to find that in six cantons, namely, those of Uri, Zug, Soleure, Schaffhausen, Appenzell and Thurgovie, not a single case of foul brood was found. The results show the value of inspectors and the advantages that resulted from legislation. Valais still shows the highest percentage of cases, as it was the worst-infected canton in Switzerland, but even here we find the percentage of infected colonies reduced from 10 per cent. in 1913 to 6 per cent. The high percentage is accounted for by the fact that foul brood had for years become endemic in this canton, owing to no measures having been taken to combat it previous to legislation. In the 89 apiaries consisting of 620 colonies, foul brood was found in 199. Of these artificial swarms were made from 61 and 138 were destroyed and appliances disinfected. In accordance with recent investigations, it is possible to free honey of the disease germs by adding 50 per cent. of water and boiling until it is reduced to the original consistency of the honey. It is, however, not suitable for commerce.

We would remind our readers that the Swiss Cantons have delegated their powers to the Swiss Bee-keepers' Society, who is authorised to administer the law. By this everyone is required to notify the presence of disease in his apiary, but only members of the Society are entitled to compensation. No purchase of bees can take place without a health certificate, and the purchaser who does not conform to this condition forfeits all right to compensation in the event of foul brood being found in his apiary.

The finances in connection with the scheme, which is administered by M. F. Leuenberger, are in a flourishing condition, for although the insurance is only 5 centimes per colony, and no call has been made on the Government for financial help, it has been amply sufficient to pay all expenses including compensation. The insurance premiums amounted to 8310.35 francs, and compensation cost 4530.90 francs.

We congratulate our Swiss friends on what the Society, under the able direction of M. Leuenberger, has been able to accomplish with the powers that legislation has given them.

The progressive march of Swiss bee-keeping continues under the protection of legislation and the guidance of education. The sooner we have the protection afforded by legislation here the better for British bee-keeping.

The British Bee-Keepers' Guide Book.

A new edition—the twenty-fourth—of the above is now being printed. We have now received a few advance copies in paper covers, and we hope to execute the many waiting orders in a short time. Cloth covered copies will not be available for a little while, but they will be in the hands of the binders in the course of a day or two.

It is very gratifying to notice the continued popularity of the Guide Book. The present edition has been revised. Much of the chapter on "Diseases" has been rewritten and brought up to date, and the new edition will maintain the reputation of the Guide Book as the best handbook on bee-keeping published in the British Isles.

Notice.

Will advertisers please bear in mind that the postal arrangements have been altered, and that there are now very few collections of letters from the post boxes on Sundays. Letters posted on Sunday, or late on Saturday evening, do not reach our office till *Tuesday* morning. Advertisements must reach us on *Monday* for insertion in the Journal on the Thursday following.

Lectures at Golders Hill Park.

A special course of six lectures on bee-keeping will be given in the British Bee-keepers' Association's apiary, London County Council Park, Golders Hill, London, N.W., on Fridays, July 22 and 29, and August 5, 12, 19, and 26, at 6 o'clock each evening.

Those desiring to attend these lectures must make application at once for enrolment and particulars to:—W. Herrod-Hempsall, Secretary, 23, Bedford Street, Strand, London, W.C.2.

A simple "chat" on bees will be given free, at 3.30 each afternoon, before the lectures.

A Dorset Yarn.

Bees up to Sunday, the 26th, have worked well, the honey gathered has a delicious taste; the main source I cannot tell, but wild white clover has bees continuously; supers of standard combs are capped in most of the hives, the others fully drawn out. One week at the same rate as last will complete two supers of standard combs (these have an excluder over brood chamber), others with shallows over brood chamber are varied. We have some below the brood nest for the bees to draw out, some above the brood nest; in only one instance has the queen been up, in this one the whole of the combs in the brood box were not full of brood, honey was in the outer ones; others which were very strong and have not swarmed filled the shallows, and capped most of them in eight days. The queen not having been in them at all the excluder was on top of the shallows, these hives are close together. There seems to be no regular working of all hives, each stock goes entirly on its own.

Where the queen is using both the brood box and the shallows for breeding the excluder is still on the top, but where the shallows and standards are full of honey they are lifted up with others beneath; excluders hinder the freeway of bees, but they are a necessity in May and June, after that we find our stocks work better without them. In some of the standards above the excluder the bees leave the lower part of the centre bars empty of nectar, as if they would like to get the queen up, but filled them after waiting. They have not drawn out the cells quite so long as they have the upper ones—another proof that the workers wanted her up in them. Where we have put the shallows and standards beneath the brood nest we find a great clearance of bees out of the sections. We have five racks on some, and have harvested one, with seventeen of them fully capped over, we sell the perfect, and use the uncapped ones in first racks above swarms and divisions to entice the bees up in them to start other sections. It is an old ruse, but it gets the goods quickly; it is remarkable how bees can be enticed up into supers this way. We find also that it even entices a young queen to lay to have a comb of brood placed in a hive where there is a young one.

Looking over ten combs, which were full of honey and no brood, but having empty queen cells, and not being able to spot a queen, I took a comb of young brood of all ages from another hive, so that they could raise a new one. I placed it in the centre, after six days we looked to see the development of the queen cells, but there were none, but the whole of the outer parts of the comb we had given them had very young larvæ, and on it was a black queen (these were blacks from the Isle of Purbeck). We could not find even an egg in all the other combs, but all the front ones were full of honey, right down to the bottom. The queen, finding empty cells in the new comb, had been enticed to start laying her eggs; these had the butter box taken off the bars on June 2. One or two combs were extracted on June 4. The young queen did not lay any eggs till June 23, but the crowds of bees had filled the combs with honey (with some pollen), and had not entered a rack of 2-lb. sections that were on top. Others may have seen the same in their stocks, but I have not.

(To be continued.)

Jottings from Huntingdonshire

The sun is shining in his full strength, and the pasture is so scorched that it looks as if it needs only an accidentally dropped lighted match to set the countryside aflame. Never have I seen the grazing land browned to such a degree in June. Honey is coming in, not rapidly it is true, but the bees find a little, spring beans and limes apparently being the only sources. The mowing machines rattle through the meadows, and lay the graceful grasses low; within a few hours all is hay. "Wunnerful weather for haye making, but phew! ain't it hot?" says an old farm hand as he passes along the lane, vainly urging his horse to "step up," the poor beast being nigh overcome with the heat and the exertion required to shake his head free of the myriad flies, who seem never so bent on torment as when tropical conditions obtain.

Half my bees spend the night outside, hanging in clusters on the alighting board. One stock in particular have appealed to me to divide them, and I have bidden them swarm. I gave them more room, and allowed more ventilation, but no good. The hive is so choked with bees that for them all to get in is an impossibility. Another super piled on relieved matters somewhat, but still thousands were forced to stay outside. Adopting the advice of the old woman, I addressed them with some vehemence. "Swarm," I said, "swarm. I want you to swarm particularly. Someone is waiting for you." By a singular coincidence, they obeyed, and darkened the air with their thousands and filled the place with their hum. Two workmen stopped to watch. "By gum! Some swarm!" says one. "It is," I replied, as I proceeded to get a skep ready. Alas! the whole lot returned to the hive, choking the entrance for the rest of the day. After tea I opened the hive out, took off the supers, examined every comb, and found no sign of a queen cell. Every frame of comb had brood in all stages. I ask myself, "Shall I divide, or transfer to a larger hive?" I decide to do the latter for the sake of the honey, since no queen cells are in formation. Now I understand why this queen was taken to at once and the old one expelled. This is the hive of which I wrote some weeks ago, the queen having wintered in an empty hive with just a few bees.

Despite the heat, extracting is difficult. Charlock honey has been brought in in such quantities that it is only a little less liquid than heather honey. Comb bracing, a little trick Italians are very fond of, is not so pronounced this year.

Those of us who have experienced the trial of temper caused by the tantalising difficulty of removing heavily propolised metal ends

will feel grateful to the Rev. H. Newman for his contrivance, the metal end remover. It saves time and patience, and should be in the hands of every bee-keeper, its very simplicity being its greatest commendation.

Visiting a place three days ago, I was angered at seeing eighteen hives standing in a row with an average space of about 16 in. between each hive. How anybody can expect success under such conditions passes my comprehension. The loss of queens would be alarming; but that is not the worst. It is overcrowding, and injurious to the health of a bee. Moreover, supposing disease manifested itself, the whole apiary would soon be wiped out, the drones being the carriers. Anyone who knows a bee from a wasp should know that drones are very fond of paying calls, and in a case of hives placed so many in a row, since drones are often the first to become affected with disease, drones from a diseased hive would very quickly carry the germs to a dozen colonies. A drone diseased soon gets expelled from his own home, but what cares he so long as he can get a welcome less than 2 ft. away? Moreover, directly a colony becomes decimated with disease, the workers begin, instead of expelling drones, to constrain drones to come in and dwell with them. They have an object, no doubt, *i.e.*, maintenance of temperature, and the little ladies take care to keep most of the drones within; but a hot day comes along, and the drones are given permission to take an airing. They take it, and visit possibly a dozen hives, and then the fell deed is done. Overcrowding is one of the great sins of bee keepers on a large scale. It appeals to the eye maybe, but it does not appeal to the pocket. I am frequently advised to have my stocks so arranged, and by people who ought to know better. No, thank you; while I have room I prefer to place six here and six there and six somewhere else, and watch the faces of those people who come and look round and wonder whether I am of an eccentric turn of mind.

I was sorry to miss one or two visitors this past week, especially Mr. and Mrs. Weir, who called on their way back to Edinburgh after touring the South and West.

E. F. Hemming.

Some Miscellaneous Thoughts.

(*Continued from page* 259.)

(3) On Reading.

Ever since some kindly-intentioned gentleman set about making this other Eden fit only for heroes to live in, I have taken the "B.B.J." and the 'flu regularly, and have thoroughly enjoyed the former, although I have no bees. The only fault I have to find with it is that, like some luscious foreign fruit, you have to patiently sit down and, with watering mouth and greedy soul, cut it before you can devour its contents; and then —it is so soon finished! And what then? More journals where journalism is not, but sensationalism abounds, and all is black and sordid. Whither can a slave to the vile charms of the daily Press flee to be out of reach of the depressing tone of the perplexity of to-day? The solution is—keep bees! Flee from yourself to your bees, the country, fresh air, fresh interests, health for body and mind!

(4) The Old Order Changeth.

I once learned to say "microsporidiosis," and was very proud of it, especially when I could roll it off the end of my tongue in bee conversations without having to stop and think. Now, alas! it is out of date, and someone has been inventing new words. Here are "Acarine" and "Vitamine" and "Tarsonemus woodi." None of them has the dignity and roll of "Microsporidiosis," and you may have alternative pronunciations to them all, as I daresay Oxford, Cambridge, and St. Andrew's already have.

(5) On Bees and Babies.

Talking about Vitamines, I see Rev. Hemming mentions them in his Jottings (March 5)—(and, incidentally, the paragraph seems to say that spraying with Yadil injects them into drones!). Seeing that animal life is, presumably, impossible without them, does it not seem strange that we ever managed to keep bees alive throughout winter on boiled syrup alone? How would it be when making syrup to omit vinegar (Guide Book, p. 197) and instead stir in one ounce lemon or orange juice when nearly cold? I believe similar precautions are now taken when mixing patent foods for infants. Probably many artificially-fed babies died for want of Vitamines, but how about sugar? A writer in the "B.B.J." (I forget who it was) once said that as beet sugar killed bees, might it not kill babies? Since then we have had much war and no beet sugar.

Average Infantile Mortality, 1911-1915, 110.
Average Infantile Mortality, 1916-1918, 95.

Of course there are many facts to take into consideration, but this is interesting.

(6) On Mr. Kettle and De Quincey.

Some weeks ago Mr. Kettle remarked upon his bees performing the strange feat of extracting moisture out of mortar, which is as ingenious as the sailors on a "dry" American destroyer who told me the only "drink" they could get aboard was wood-spirit and sugar. Asked where they obtained the spirit from, they explained that it was the propelling power of their torpedoes! Unless they were "pulling my leg," it is a good job they never went into action. But to return from torpedoes to mortars! I suggest the building in question was new, and that Mr. Kettle dwells near the sea. If so, the lime was doubtless mixed with sea-sand. This has many advantages—it costs nothing, it keeps new houses damp a long time (the salt being more or less deliquescent), and it provides a splendid saline solution for bees not otherwise provided for (salt, as well as vitamines, being necessary for bees' well-being). Verb. sap.

When I read Mr. Kettle's article I wondered if the action of his bees explained a passage in "Confessions of an English Opium Eater," or whether Mr. Kettle has got the descendants of the bees mentioned there, and they have similar habits. I should certainly

prefer "mortar" to "soot." The passage runs:—

". . . . like the bee, that extracts its materials indiscriminately from roses and from the soot of chimneys."

(7) On Insurance.

Does any insurance company undertake insurance of stocks against loss in these days of plague? If not, could any reader skilled in insurance matters and steeped in statistics say what would be a fair percentage for a premium?

[The answer to the first part of the question is in the negative.—Ed.]

Observations.

It is some time since I sent any notes to the "B.J.," for the reason that, in common with so many another bee-keeper, I have been perforce quite otherwise occupied for so many years. However, some experiences have come my way recently, the recounting of which *inter alia* may be of some general interest to bee-keepers, so I am making a fresh start, and transmitting these observations, Mr. Editor, on to you.

At the outset, I find that I am not now bothered with so many undesired swarms as formerly, nor to anything like the same extent as many of my neighbours appear to be, and this I attribute, in the first place, to my strain of bee, and, secondly, to employing every means in my power to make the bees comfortable. Careful forethought and close observation are the two most essential factors for success, and must be the guide to the correct and effective use of devices, all and sundry.

Know your own district, study the flora and weather at all times, so as to be sure when honey is likely to be flowing in quickly and when it is not. This knowledge will in a short time be, at any rate, as good, and probably a much better, guide to action than opening up the hives.

We here (Carshalton, June 1-10) have had an excellent spring flow of fruit of all varieties, together with chestnuts and sycamore; the limes give great promise, with favourable weather, for a busy time a week or more hence; clover prospects so far look poor, unless rain comes, and this may come in such amount as to necessitate the re-drafting of all our present plans. All stocks which came well through the winter and have not swarmed should have filled two supers by now, and be engaged on the third, and, for the present, should be left at that, care being taken to keep a current of air circulating between the hive and floorboard. Now, although this has been constantly advised for years past in your journals and text-books, I have only found one bee-keeper using it here—of course, although I know many of them, I do not know all—yet it is such a simple expedient, and usually so successful. I use the W.B.C. hive, perhaps the most difficult to wedge, because of the necessity of raising both the inner box and outer covering, but I have made a simple wedge by sawing a small wooden brick in the following manner, formerly used for the amusement of my youngster.

Four of these are used, one at each corner of the hive; the inner body box is raised, and the point inserted far enough to lift the box about ⅜ in.; the other ends of the block support the outer case above the level of the inner box, and ensure a free circulation of air all over the board.

The bees are thus able to fly all round from four sides of the hive. Alternatively the two front ones only may be used, and if robbing becomes evident, as it may do during any check in the flow—and I need not remind readers how careful they must be to guard against this—the back ones must then certainly be removed. Another good plan is to use short wedges only for the back, which raise the *inner* box only, and do not extend as far as the edge of the floorboard, so that the outer case can come right down at the back, and only permits the bees to fly out in front and for a short distance at the sides.

My experience goes to show that with these devices, properly used, the less the brood chamber is disturbed, the better; in fact, I now endeavour to leave mine untouched from the time of the spring cleaning to the examination after the flow is over.

With most bee-keepers, and certainly with most beginners, the one and only sovereign preventative is to add fresh supers long before they should be added, and I find numerous instances of bee-keepers whose bees have swarmed, cast and cast again, despite the presence of two, and sometimes even three, almost empty supers.

One effect of the cool current *below* the cluster is to encourage the bees to keep more to the supers above, and the rapidity and excellence of the work there largely depends upon their constant presence in numbers; so much is this so that I am inclined to believe that much undesired swarming is due directly to too much crowding in the brood chamber, owing to the empty space overhead being so beyond the capacity of the colony that the bees abandon it in despair.

It is as well to remember that bees under natural conditions begin work at the top and develop downwards, and that a vacant space above the brood nest is really unnatural. The modern practice of supering is adopted as being the nearest, but only as being the nearest, artificial device to natural conditions Some years ago serious efforts were made to conform the gathering of a large surplus of honey to this natural downward movement of the brood nest; but experience has caused nadiring to be finally abandoned in favour of adding super room alone. It must never be overlooked, however, that this is really an endeavour to force the pace, and if carried too far perhaps cause the brood nest to lose touch with the bees above and so upset the regular working of the colony as to produce a condition of disturbance almost as calculated to produce swarming as is overcrowding.

Now for a few words about queens and their caprices. On Saturday, the 4th of June, I made a nucleus of three combs with ripe queen cells, which I put on one side to go through on Sunday morning. This I started

at what turned out to be just before dinner-time—incidentally I may mention that all important work invariably coincides with dinner-time on Sunday—so I had to hurry. I found two queen cells, which I cut out and dropped on to the ground behind the hive, leaving a hatched yellow queen behind. Just as I was putting the quilt on I saw a yellow queen fly on to the top of a frame and go into the hive. A glance at the cells I had cut out showed me where she had come from; one was empty, with the lid hinged open.—A. RICHARDS.

(To be continued.)

Notes from Surrey.

The drought is badly affecting bee-keepers who have their hives near the heaths, but there is hope in the heather later.

Reading in "Bee Journal" of bee-keepers not using queen excluder, and the queen not going up to breed in supers, I left off queen excluder, and, to my annoyance, the queen went up and laid in shallow frames and sections. Motto: Always use queen excluder.

A cast, which I secured in a small box lately, settled quietly, and I made up a hive for this two or three days later, and transferred them. They settled in, but a day later departed without leaving a single bee. I removed the empty hive to my study, and was surprised to find the bees back again a day later, having come into the room through the window, and gone to the hive. I fancy the very dry hot weather makes the bees restless. —B. J. GUILLEMARD, Camberley.

A Brief Report.

The honey flow began here on June 15, and excellent progress has been made, even with the large 36-40 section racks; all sections were filled and partly sealed within a week.

Bees are now storing in the second supers, and in one case a third had to be given. Stocks are abnormally strong, and as no swarming has occurred to break up the working forces, there is every prospect of a successful honey season.—J. M. ELLIS, Gretna, June 24, 1921.

The Export of Plants and Bees to Palestine.

The Ministry of Agriculture and Fisheries wishes to acquaint nurserymen and others desirous of exporting plants, etc., to Palestine that living plants and bees are only permitted entry into that country if accompanied by a certificate to the effect that the plants or bees have been examined and found to be free from disease. The Mimstry is prepared to undertake the examination of such plants or bees on payment of the requisite fee, particulars of which may be obtained on application.—Ministry of Agriculture and Fisheries, Whitehall Place, S.W.1. June 24, 1921.

Acarine Disease.

SUGGESTED REMEDIES.

I have been watching the bee-keeping papers in the hopes of seeing suggested remedies for Acarine disease with the results of any experiments. Not much information so far has reached bee-keepers. I should like to suggest two "remedies," and it would be interesting to hear through the "B.B.J." the results of any experiments made.

(1) Collosol sulphur sprayed on the bees and thoroughly over the inside of the hive.

(2) Creosote (pure) placed in the hive. A few drops might be put on a very small piece of sponge fastened to the end of a piece of strong wire and pushed through the entrance, so that the sponge is at the back of the brood-box under the combs.

I have tried both "remedies." I have persevered more with the latter. A stock which proved microscopically to be heavily infected with acari in all stages was treated with creosote. Every three days a few drops were placed on the sponge. In a very short time no acari in any stages could be found in the bees. I do not assert that the stock is cured, but it is doing wonderfully well in the way of honey gathering. It has also thrown a good-sized swarm. No acari can be found so far in the bees of the swarm.

I suggest that the breeding season is the only useful time for making experiments. Bees are hatching out and dying fast now. To kill acari later in the season would mean the death of the bees, too. Dead acari in the breathing-tubes of the bees would not improve their health!

Records of any experiments made would be interesting reading.—G. H. HEWISON.

British Bee-Keepers' Association.

The monthly meeting of Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, June 16, 1921.

The Vice-Chairman, Mr. W. F. Reid, being unable to be present at the early part of the meeting, Mr. J. B. Lamb presided until the appearance of Mr. Reid, who then took the chair.

There were also present:—Miss M. D. Sillar, Messrs. E. D. Lowes, G. S. Faunch, G. R. Alder, A. Richards, G. Bryden, and J. Herrod-Hempsall Association representatives, Rev. M. Yate Allen (Doncaster and District), Rev. E. J. Bartleet (Gloucester), and Mr. E. G. Waldock (Surrey).

In the absence of the Hon. Secretary, his duties were undertaken by the Assistant Hon. Secretary, Mr. J. Herrod-Hempsall.

The minutes of the last meeting were read and confirmed.

Letters of regret at inability to attend were read from Rev. E. F. Hemming, Messrs. A. G. Pugh, C. L. M. Eales, F. W. Watts, and W. H. Simms.

The following new members were elected:—Mrs. M. K. Hodson, Rev. W. Head, Rev. F.

Cooper, Messrs. R. S. Wicks, W. T. Garnett, and B. A. Beare.

The Kent Association nominated a representative, who was accepted.

The report of the Finance Committee was presented by Mr. Bryden, who stated that receipts for May were £21 19s. 1d., the balance on June 1 being £169 6s. 1d. Payments amounting to £50 were recommended.

Applications for preliminary examinations from Essex, Doncaster, Gloucester, Swanley College, Thornton College, Staffordshire, South Staffs. and District, and Cairo were read and granted.

Mr. Bryden brought forward the price of honey for this season, and it was resolved that the retail price recommended for first-grade extracted honey be 2s. 6d. per lb. jar, including container, and glazed sections 3s. each.

Correspondence with the Headquarters of the Boy Scouts' Association, *re* the Scouts' Bee-keepers' Badge, was read.

The Rev. E. J. Bartleet raised the question of introducing a knowledge of bee-keeping in public schools, and it was agreed it should be considered at a subsequent meeting.

Next meeting of Council, July 21, at 23, Bedford Street, Strand, London, W.C.2.

Huntingdonshire Bee-Keepers' Association.

In connection with the Hunts County Show, the Huntingdonshire Bee-keepers' Association were asked to run an exhibition of honey, etc. Owing to the Association's energetic secretary, Mr. F. Tunnington, and the co-operation of the members, some excellent exhibits of honey, wax, and appliances were staged, and the whole drew an unexpected compliment from the president of the county show, who, in his enthusiasm, coined the phrase, "Huntingdonshire honey makes healthy humanity." The fact that such excellent honey, both run and in comb, could be produced so early in the year as June 3, surprised many agriculturists of long standing. The judge was Mr. Woods, of Royal and Dairy Show fame, the prizes being as follows :—

Class I.—Run honey in three 1-lb. jars; 1st, Rev. E. F. Hemming; 2nd, Miss J. Lloyd, St. Ives; 3rd, Mr. J. L. Barton, Hemingford Abbots.

Class II.—Three 1-lb. sections: 1st, Mr. A. Bull, Huntingdon; 2nd, Mr. H. Warren, Huntingdon; 3rd, Mr. E. Wallis, Bluntisham.

Class III.—Wax: 1st, Mr. E. Hodson, Huntingdon; 2nd, Mr. G. F. Wilson, Hemingford Grey; 3rd, Mr. A. Storey, Offord Cluny.

Class IV.—Shallow frames: 1st, Mr. J. Chandler, Godmanchester; 2nd, Mr. G. F. Wilson.

Class V.—1st, Mr. E. Wallis; 2nd, Mr. J. Chandler.

Class VI.—1st, Mr. E. Wallis; 2nd, Mr. J. Chandler; 3rd, Mr. E. Hodson.

During the day demonstrations were given by the Rev. E. F. Hemming and Mr. E. Hodson of bees kindly lent by Mrs. Willis and Miss Lloyd. An observatory hive and case of bees and comb were also on view.—(*Communicated.*)

Carmarthenshire Bee-Keepers' Association.

ANNUAL MEETING.

The annual meeting of the above Association was held at the National School, Llandilo, on Saturday, June 11. In spite of the restricted train service, there was a good attendance of members. Mr. P. C. Guthrie was elected chairman of the meeting.

Before proceeding to the business on the agenda, sympathetic references were made to the sudden death of the Association's chief expert and adviser, Mr. H. Samways, and a vote of condolence with the widow and family was passed. Mr. Samways was the founder of the Association, and his loss is the most severe blow that could befall.

It was decided to issue labels for the use of members having honey for sale, and also to forward to the Board of Agriculture a resolution in favour of imported honey being labelled with its country of origin before being retailed.

The work of the Association has developed considerably during the year, and the report and balance-sheet were adopted as being highly satisfactory.

The retiring officers were re-elected, except that Dr. Bowen Jones, of Carmarthen, was elected chairman of the Council.—W. COMERY, Hon. Secretary.

Manchester and District Bee-Keepers' Association

The second apiarian visit was to the members of Rochdale's suburbs. Getting first to Mr. Iveson's, at New Hey, we found his hives on a safe foundation above a rocky precipice. We were inclined to ask, "Where will bees find nectar here?" but out of space quickly came the answer. Bees in the happy mood came flying in, while, on looking through the hives and tasting the honey, we knew at once that clover was the source, and as the combs glistened as they were held up in the sunshine, we saw that near these manufacturing towns Nature was busy secreting nectar in the lowly flowers of the wayside and the fields. As the bees waddled up the entrance-board with their pollen baskets loaded up we saw again that ample stores were borne for the flowers' need, and they could afford a modicum for their partners in cross-fertilisation. When we had put supers on, Mr. Coulthurst showed, by carefully lifting a handful of bees in his hand and shaking them off in the super, what can be done by gentle handling.

Walking across from this hillside to another at Buersill Head, where Mr. Sutcliffe's apiary is, we were arrested by the pureness of the atmosphere in these abnormal times; we were struck by the great silence, the absence of bird music, though they could be seen busy enough with home cares and duties. This apiary was preparing for the

swarming season. We cut out queen cells galore, gave more breeding room, and supered.

We crossed the town to Passmonds, where the brothers Heywood had their apiary. With one stock filled to repletion, we found, as often happens, the unexpected; a weak stock a hundred yards away, in another apiary, was robbing a strong neighbour, who were busy filling their hive from Nature's storehouse.

We had tea on the greensward in the shade of the trees, which spread their branches high over our heads.

At the meeting, the discussion centred round the honeyflow. A query was asked: "How and when should I add another super?" "Under the first," was the general answer to "how?"; but "when?" found more varied opinions, as, when the first is about three-quarters full, when the bees begin to cap; a caution was given—as soon as the flow is over, remove at once, or all will be taken down.

A member had a unique experience. He was removing "dud" queen cells, when in one he found a princess. He immediately pushed it back on the comb, and the bees repaired the breach, made all sound again, and the next day he found the cell uncapped. After a determined search five times through from back to front and front to back, he found a lively virgin.

The president, Mr. Worthington, reported that he had a visit paid to his apiary at Cheadle by about 25 students, from the Victoria University, at Manchester. The Professor on Entomology and Zoology accompanied them. They seemed delighted and charmed with what they saw, and he added, in that quaint way of his: "The bees were very good—all but one or two, who demonstrated how a bee defends her stores when interfered with."

Anyone who has come under the influence of Mr. Worthington, or has had a demonstration of apiarian work, and has seen his bee mansion with the observatory hive in it, in the midde of his apiary, knows that these students went away more than delighted. They would have instruction and first-hand knowledge given them, that would not effervesce ere they reached the University again, but an insight into bee life with a grip given them which would become part of themselves for life. J. WHITTAKER.

New Forest Bee-Keepers' Association.

ANNUAL MEETING.

The annual meeting of the New Forest B.K.A. was held at the Church Room, Brockenhurst on June 11, the chairman, the Rev. L. W. Mylrea, M.A., presiding over a good attendance of members. Lt.-Colonel Kettlewell was elected president.

Mr. H. Bright gave an account of the work done during the past year in the form of lantern lectures at Brockenhurst, East Boldre, Baddesley, and Lymington, also visiting the members twice during the season.

Mr. Bright gave an interesting chat on "Diseases of Bees." A resolution was moved by Col. Kettlewell:—"That the annual meeting of the New Forest B.K.A. deeply regrets the postponement by the Government of the Bee Diseases Bill, and trusts that it will be brought forward again at the earliest opportunity. The need for legislation is urgent." Copies of this resolution to be sent to the Board of Agriculture and the M.P. for the district.

The resolution was supported and carried without dissent.

(Communicated.)

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

A Swarm from a Swarm.

[10471] It may interest the readers of the "B.B.J." which I enjoy reading every week to hear of the prolificacy of Italian hybrids. A strong stock sent off a swarm weighing 4 lbs. 10 oz. on May 10. This was successfully hived, and in spite of two section racks added subsequently after intervals of about 10 days each, itself sent off a swarm on June 17 of, strangely enough, just the same weight, 4 lbs. 10 oz. The first section rack was nearly filled with honey when the second was added under it. Owing to this prolificacy, I am so overstocked that I am advertising bees for sale in the issue of June 23. —A. H. COOPER.

A Hint for Swarm-Taking.

[10472] Perhaps many bee-keepers have had the same experience this year that I have had with swarms. The cluster has almost invariably been impossible to shake into a skep, and often exceedingly difficult to drive up into an inverted one, owing to the impossibility of placing the skep at all directly over the main cluster.

My swarms have been in dense yew-bushes, all round the main trunk of a fruit tree and tailing off along a branch, or split up in the fork of a tree along several branches so close-set that it would have been necessary to sacrifice much of the tree in order to get the skep over the swarm.

The first swarm or two I tried brushing into the skep; the average number of attempts before success was three to four. The risk of damage by this method (to the queen) is obvious.

One day I had to take a swarm which seemed to me impossible of attainment. I tried driving, and they would not go in. At last, I inserted the edge of the skep under a small outside portion of the cluster which hung free, and gently worked 500 to 1,000 bees into it by getting them to spill themselves over the edge and flow over the inside

of the skep. There was no jarring, and the bees did not take wing. The skep was then inverted so that the edge was near (the best that could be done) the main cluster. At once the rest commenced to go in without any smoking.

I have repeated this process six or seven times since, and never had the least trouble in getting the bees to run up into an inverted skep, no matter how awkwardly placed the swarm has been.

It is probably a common manœuvre amongst expert bee keepers, but I have not seen it described, and we mostly depend on methods we have read unless we are lucky enough to have a bee-master living close at hand. It may be of service to some of your readers.

Had I evolved this last year, I should have been spared the chagrin of losing the first swarm—a very large one—this year. The bees so resented the first attempt to drive them up into a skep that they took wing and I never saw them again.

It is not pleasant removing an empty hive that you have got ready to put your first swarm into.—J. CHARSLEY MACKWOOD, June 18, 1921.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

D. M. S. (Camberley).—(i) *Hybrids and natives in one hive.*—The worker bees from a queen that has mated with a drone of another variety will not be all marked alike. Some will be marked like the queen, others like the drone, and the rest will be marked in varying degree. Thus if an Italian queen is mated with a native drone the bulk of the workers will be more or less banded with yellow, but some of them will be banded like pure Italians and others will appear pure natives

(ii) *Bees destroying drones.*—The flying bees, as you surmise, have all joined the swarm hived on the old stand, and further depleted the old stock. This, coupled with only one queen cell being left, has caused the bees to decide not to swarm again when the young queen was mated.

J. S. G. (S. Shields).—*Nucleus swarming.*—This is fully described on page 95 of "The British Bee-keeper's Guide Book." A nucleus is formed, and when the queen reared in it has commenced laying she is confined in a queen cage. Frames of comb or foundation are added to make up the number to ten. A strong stock is removed to the stand previously occupied by the nucleus, the latter being placed where the stock stood. The queen may be released after 36 hours.

W. T. G. (Smethwick). *Best time for examining bees.* (1 and 2) Eight o'clock in the evening was too late, especially for a novice, as all the bees would be "at home," and you did well not to persevere. Try again during the middle of the day when the flying bees are away collecting nectar. (3) Give another rack of sections. (4) The bees will not swarm unless there are in the hive queen cells containing embryo queens. Don't worry about the drones. No doubt there are some in the hive, but there will be drones flying from other hives to mate your virgin queens. We advise you to join the Warwickshire Bee-keepers' Association. The Secretary is Mr. J. Ingerthorpe, Knowle, Warwick.

Miss M. C. B. (Cards.).—*Price of honey.*—See report of B.K.A. Council meeting.

H. A. (Kidderminster).—90 to 95 deg. Fahr.

W. P. (Birmingham).—Italian with a little native blood.

A. W. W. (Bedale).—We think both lots were Dutch bees.

J. L. (Heavitree).—The yellow balls are pollen, and the brown matter the cells of the Mason bee.

Suspected Disease.

E. H. O. (Cwmyrhiadr), Miss E. M. B. (Lakeside), P. C. M. (Coxlow), A. B. C. (Yorks.), and A. KINGSTOTE.—The bees were suffering from Acarine disease.

Bee Shows to Come.

June 28 to July 2.—Derbyshire Bee-keepers' Association's Show in connection with the "Royal" at Derby. Open Classes, good cash prizes and gold medal offered.—Schedules, apply F. Meakin, 37, Pybus Street, Derby. **Entries close June 20.**

July 13, at Shedfield.—In connection with the Shedfield Horticultural Society's Show. Open to all bee-keepers in the area of the Swanmore and Bitterne branches of the Hants and Isle of Wight Bee-keepers' Associations. One Open Class for all bee-keepers in Hampshire.

July 13.—Wickham Bishops and District Bee-keepers' Co-operative Association. Group 2: Open to bee-keepers resident in Essex. Class 80, four sections, 1st prize. 7s. 6d.; 2nd, 5s. Class 81, 1 lb. extracted honey, 1st prize, 5s.; 2nd, 3s. Class 81a, cake of beeswax, ½ to 1 lb. weight, 1st prize, 5s.; 2nd, 3s. Group 3: For bee-keepers resident in the British Isles. Class 82, 1-lb. glass jar of 1921 run or extracted honey, 1st prize, 20s.; 2nd, 10s. 6d. Exhibits in Class 82 to be the property of the Association, and will be distributed among hospitals in the County of Essex. Entrance fee 6d. per class. Rules for exhibiting on back of entry form.—All entries to be sent to R. A. Pelly, Hon. Sec., Wickham Bishops, Essex. **Entries close on July 6**

July 20, at Alexandra Recreation Ground, Surbiton.—Surrey B.K.A. Show. Twenty Classes. Two Challenge Trophies, ten Silver, and 15 Bronze Medals. Eight Open Classes.—For Schedules apply Hon. Sec., W. E. Hamlin, 43, Norbury Court Road, Norbury, S.W.16.

July 21, at Bath.—Somerset Bee-keepers' Association's Show in connection with the Larkhall Horticultural Society's Show. Several Open Classes.—Schedules apply Mrs. Wallace, 151, Newbridge Hill Bath. **Entries close July 16.**

July 20 and 21, 1921, at Cardiff.—Cardiff and County Horticultural Society's Show, Sophia Gardens, Cardiff. Bee section under the auspices of the Glamorgan Bee-keepers' Association. Open Classes.—Schedules to be obtained from the Hon. Secretary, Chas. F. Davies, 5, Borstal Avenue, Cardiff.

Saturday, July 30, and Monday, August 1, 1921, at Lichfield.—Lichfield Floral and Horticultural Society's Show. Bee and Honey Section under the auspices of the Staffs Bee-keepers' Association. All classes open.—Schedules may be obtained from the Hon. Secretary, A. H. Perrins, 30, Tamworth Street, Lichfield, Staffs.

August 20, 1921, at Ammanford.—Carmarthenshire B.K.A., in connection with Ammanford and District Horticultural Show. Silver and Bronze Medals for Members' Classes. Open Classes for Honey, Wax, etc. Good prizes.—Schedules from W. Comery, 15, New Road, Ammanford. **Entries close August 17.**

September 17 to 23.—British Bee-keepers' Association Annual Show at Grocers' Exhibition, Royal Agricultural Hall, Islington, London. Entries close September 5. Schedules from Hon. Sec., B.B.K.A., 23, Bedford Street, Strand, London, W.C.2.

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STRONG, healthy 6-frame Stock Italian Hybrids, £2 15s.—GLYNN, 15, Kelvin Avenue, Palmers Green, Middlesex. q.129

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¶ To keep bees profitably, when bee diseases are still rampant, is a problem which for long remained unsolved until the introduction of Dutch bees on an extensive scale in this country, and the increase of knowledge regarding their proper management. To any reader of the JOURNAL I shall be pleased to forward interesting literature and price list on application.

¶ Characteristics: Dutch bees are credited by all impartial critics with splendid prolificness, eminent suitability for comb honey production, and fitness for use with large hives; and, above all, their remarkable resistance to *Acarine disease*, as confirmed by recent research (see Dr. Rennie's Report, pp. 747-751).

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NOTE.—These are *not* small driven lots with half depth combs.

(2) Ten-comb stock in "Cumbernauld" hive, with excluder and crate of sections, £6 10s., carriage *forward*. *Immediate delivery.*

¶ References: "Those who fancy this variety cannot get them from a better source than 'Orme Lodge Apiary,' Mr. Whyte is Agent for the best known and largest bee-keeper in Holland, Hans Matthes."—The B.B.J., March 10, 1921.

"The championship of the Dutch bee, for which Mr. Whyte is known, receives an illuminating tribute in his catalogue, which is a literary and practical treatise on this hardy race of bees."—The *Bee World*, April, 1921.

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Clubbing Offer Gift.

We apologise for not announcing in our last issue the name of the winner, owing to great pressure on our space at the last moment. The Carniolan nucleus on three aluminium semicombs has been awarded by ballot to Dr. J. G. Smith, of County and City Dental Hospital, Burghill, Hereford. The nucleus, which was started on June 23, is making good progress, and will be forwarded with our compliments to Dr. Smith about the middle of this month. It should have ample opportunities for development and good wintering with ordinary care.

Lectures at Golders Hill Park.

A special course of six lectures on bee-keeping will be given in the British Bee-keepers' Association's apiary, London County Council Park, Golders Hill, London, N.W., on Fridays, July 22 and 29, and August 5, 12, 19, and 26, at 6 o'clock each evening

Those desiring to attend these lectures must make application at once for enrolment and particulars to:—W. Herrod-Hempsall, Secretary, 23, Bedford Street, Strand, London, W.C.2.

A simple "chat" on bees will be given free, at 3.30 each afternoon, before the lectures.

A Dorset Yarn.

(*Continued from page* 294.)

Another instance of the workers and their ways was noticed this last week where a box of bars were placed beneath the brood nest. The great crowds of workers which were always to be seen above the sections and between them and the glass covering (where the top rack of five were nearly all capped over) migrated downwards, the first day a great reduction, but the second day, it would have been easy to count those that were on top; another proof that bees want more space to carry on, give that, and then they are not so ready to go in for the mad gambol of swarming. One of these had three combs taken out on June 4 with the queen, these have not swarmed, and have made good progress in population and supers; after taking away the queen there were two queen cells left. This lot had wintered on eight combs (the box would not hold more) with a rack of unfinished sections on top of them. A flat cover with a strip of glass across the centre to see how the cluster did through the long months of winter; I mentioned last week that the smaller brood chamber sent bees into the sections sooner if one with some honey was given them in the rack to entice the bees. Here is also a proof that the smaller brood chamber the second season induces bees to move into sections early. To give the queen more room to lay, we gave the extra bars below; these lured the bees away from the full sections above, to the greater need of work below. All this adds very materially to the interest of our bees. Writing of our methods some young bee-keepers may profit by the different ways of producing honey, and if we get the goods, then we may consider that it is a success. We have one stock that has wintered in a champagne hive (made out of three boxes), the wood is soft poplar, it was tarred over when made about 10 years ago, the roof was of cardboard, also tarred over; it will only hold eight bars, it was a migratory swarm last season that had taken possession of it; they soon filled the eight bars with comb. I gave them another box of eight bars, they wintered with both of them, the only other covering was glass top and a hessian bag. These have not swarmed; the workers saw no reason to build queen cells, they have found plenty of room to carry on up to now, they will have another lot of bars to fill for extracting. As my friend, Squire Tomlinson, puts it, "This makes the successful bee-keeper. He always has plenty of drawn-out combs to give swarms and divisions at the right time." It is interesting to me that this lot has not yet thrown out a dead drone. I have never seen one fly from it, they are working well, I let them alone beneath, as I know the combs are old. Having plenty of room last season with 16 combs, up to now they have not been cramped, they do not want to swarm, the next eight bars will run them on through to the heather harvest. I shall be able to extract a lot before the heather comes.

I suppose I ought to write "we," as I have an assistant (of the gentler sex who has kept bees in a small way) now helping with our lot. There has been a lot to do this last few weeks, and she is a great help to me I am grateful to the reader, who sent her down to Dorset. It is quite a big business to get off the supers, to grade the sections, and pack them for sale. We keep a record card of all stocks, racks added to each and what harvested. We find now that we must enter when the queen cells were removed, or we shall have late swarms, which may do well in themselves; but if stocks swarm now when they have four to six lifts on, it is disastrous for the section harvest, and it is sections that always sell best. With last night's heavy rains we should get plenty of flowers for the bees to carry on the season.

Mr. Daniells, on page 289, B.B.J. June 23, writes of a screen of propolis and wax built as though to stop a draught. It was this draught from the front entrance that led me to use the inner floor board with an entrance at the back for winter use; it is made of floor board tacked on two strips. In winter

bees must use back entrance only; we have another large entrance in front for summer use in addition, but this is not used in winter. We find that the direct draught in front hinders early spring breeding, but it is essential to have a free front entrance in summer; it also adds to the summer ventilation. The bees have not so much fanning to do, which gives more workers to gather nectar.—J. J. KETTLE.

[This is the second part of Mr. Kettle's "yarn" that we were unable to find space for last week. EDS.]

Jottings from Huntingdonshire

Dahlias, Hollyhocks, and Evening Primroses blooming before June is out, as if they thought August was near at hand, made me wonder whether autumn was going to descend upon us a full month earlier than usual. It is certain that if the drought continues the foliage of hedge and tree will soon begin to lose that depth of green so restful to the eyes and eloquent of England's beauty. Another week without rain—apart from a short thunderstorm—and yet the bees work on. Pollen is very plentiful, but nectar is scarce. The purple clover is showing its second flower, and the bees I see are busy among the blooms. I have just moved two stocks to a 20-acre clover field, and a couple of days' rain followed by a week's sunshine would do wonders, both for the clover and the bees. The wild white clover is flowering profusely everywhere, yet is unable, owing to lack of moisture, to offer nectar to the honey flies. The waysides are being painted with the knapweed and the rest harrow, fruitful sources of honey of a decidedly strong flavour. The Chinese broom, which has had difficulty in recovering from the sudden severe frost of last November, is resplendent in the garden, enriching the air with its perfume. It attracts the bees—more towards evening than earlier in the day. The borage, too, is flowering well, but is abandoned to the bumble bee. These insects, too, sip largely from the blue anchusas. It is noteworthy that bumble bees will gather all they need from blue flowers if possible, their love for blue being more pronounced than it is in our hive friends, which is saying much.

Wasps are about early this year, and the absence of stone fruit will result in the hives being troubled with these pests. At the moment they seem content to attack the house flies which is good, but attacking honey flies is bad. Destroying nests is the best way of getting rid of these yellow and black anozons, but locating nests is not always possible. I notice freshly-peeled onions are disturbing to wasps, but since the same may be said of the bees, if onions are used to keep wasps at bay, they should be suspended above the weather board. I do wonder sometimes whether a raw onion cut and littered over the floor board where acari are present, would give the wicked mite its quietus. I know that dried onion tops used in the smoker—a little rolled up in corrugated paper—is appreciated by weakly bees, and is second only to propolis in subduing angry bees. When taking off supers before wintering down try these remedies. A correspondent a week or so ago recommended propolis in the smoker when wintering bees. I thought it a tip worth noting, I hope no one will run away with the idea that the reason I have so far been disease free is due to these remedies solely. Undoubtedly they help, but one must do other things. I am often asked how I keep disease away, and can reply, by adopting preventive measures. Spring clean the hives twice at least. (Note. —Just as the fishes' spring of the year commences in November, the bees likewise commences in October.) Before packing down for the winter, clean hives and frames, and repeat the process early in March if the weather allows; in April if our spring should be late. It is assumed that in wintering, stocks weak in numbers have been united. In the second cleaning, about March, if you find a queen not laying while others have been ovipositing, destroy her lazy majesty, and unite the queenless stock with others. Of course, in some districts this could not be done before April, and late in April at that. Super early; it is a great thing, it prevents overcrowding if the weather is warm, and gives additional ventilation if a cold spell comes and the bees have to cluster closely—an important thing when brood is about. Sprinkle a little lime over all expelled drones if you haven't a few friendly toads to clear them up. A decomposed body would not be a very healthy object to place at one's front door, neither can I imagine decomposed bees being the ideal from a health point of view beneath the entrances to hives. Don't encourage mongrels.

When I am called to inspect bees which are diseased I never handle another stock without first disinfecting my hands; in fact, I never touch other people's bees without first doing this, it's a precaution which we all ought to take. If I handle bees which are obviously diseased, overall, veil, cap, shoes, all have to go through the disinfecting process, and every secondhand hive which comes this way, be it never so clean, has to stand the test of fire. Always have Yadil and Izal at hand. Quilts soaked in weak solutions of these will please rather than repel the bees. The former for the Dutch, the latter for Italians. For medicating candy for winter feeding Flavine or Bacterol should be used. Whatever experts may say, the best winter food for bees is good well-ripened honey, but a cake of candy placed under the quilt is a wise precaution. And, needless to say, water should be about which is not too foul. Water absolutely fresh doesn't appeal to bees. They prefer a slight flavour, and will resort to the manure heap if you offer them nothing better than water distilled. If streams are far away, soak a few corks in Izal solution, and drop them into a pan of clean water. The bees will settle on the corks to drink, and enjoy it.

E. F. HEMMING.

Steeple Gidding.

Notes from Gretna Green.

The season's outlook is in marked contrast to that of the corresponding period last year, and it is gratifying to find strong colonies storing in from sixty to eighty sections at the end of June. For comparison, I am running three stocks, each with twelve frames on Standard, Commercial, and Dadant brood frames respectively. This week the queen on Standard had brood in all twelve combs, while in the larger hives each queen was laying on eleven combs, and the heaviest supers were on the largest hive, which now occupies three 40-section racks.

Our first swarm came off to-day from a ten-frame hive, and the clipped queen was easily caught, caged, and the swarm allowed to return at leisure to be dealt with later on. A neighbour spent hours yesterday getting his bees out of a cavity in a very high tree, where the absconding swarm had gone after being hived the previous day.

"*Isle of Wight*" *Disease*.—A writer in last week's "B.B.J." inquires as to the possibility of insuring against this source of trouble and loss. As a matter of fact, such a scheme exists, and any colony can be insured against "Isle of Wight" disease for one year at a premium of a few shillings. From personal experience, I can heartily recommend the policy to all and sundry. [This information would have been of some value if we had been told where such insurance could be effected, as it is, we are "no forrader."—EDS.]

Another correspondent remarks that very little real information on the treatment of "Isle of Wight" disease has yet appeared in the technical Press, and this is quite true. We have heard from almost all those who *think* they have found the cause and *hope* to find a remedy—sometime. I suggest that we now give an innings to practical men who really understand the matter and can show results. Such competent bee-masters do exist in our land, and it is a regrettable fact that none of those I have in mind are contributors to the "B.B.J." For instance, there is a Devonshire queen-rearing apiary supplying bees of a disease-resistant type and the proprietor states that the editor of our Journal when visiting this apiary last August found it absolutely free from disease. [We have not been in Devon for years. Probably it was Mr. W. Herrod-Hempsall.—EDS.] This particular apiarian is conspicuous by his absence from these columns, and we do not know what methods he employs. My considered opinion is that the "Isle of Wight" problem will be solved through the BRITISH BEE JOURNAL inviting and publishing contributions on the subject by those who have succeeded along the lines of vigorous and selective breeding *applied to queen and drone-rearing mothers alike*. [Our columns are always open to any helpful suggestions—EDS.]

Personally, I find that our colonies headed by well-nurtured and correctly-mated queens are immune and cannot be infected, although common bees in an adjoining apiary have been and are dying off yearly through "Isle of Wight" disease.—J. M. ELLIS, July 1.

Notes from Nature, Seen on a Christmas Ramble.

BY TOM SLEIGHT.

(*Continued from page* 283.)

Now, this may not be all "bee gospel," as they say, but I guess there are old British bee keepers in outlying parts of our Empire to whom the notes of this ramble will be as the balm of Gilead to their souls. How they will devour this, especially do they happen to know any of the parts. If it does one poor soul good I shall be well repaid for the time it has taken me to write it. But I leave the old lane: in summer time it would be grand to walk down it and listen to the hum of the bees on those bramble bushes, that is, if they are kept near there. Two houses at the lane end, with each half an acre of garden to them, where farm labourers live, and quite half a mile from any other house, one would think would be just the spot to keep bees, but no bees are there. One reason why bees are not kept in such places as those is because the houses belong to the farm where the men work; and consequently if living in one anything goes wrong and you have words with your employer, the first thing he would throw at you would be the bees, and they can sting in more senses than one, then.

I go into Little Morton, where I get talking to a man who kept bees fifteen years ago. I said, "Why did you give them up?" "Oh," he said, "for six Sundays running; just as I sat down to dinner the bees would swarm, so I 'outed' them." I was sorry to hear it, and bees could get clover honey there second to none, I am sure, for the land is farmed on the four-year system—clover, then wheat, turnips, then barley, then clover again—and as there are only five farms in Little Morton parish of some 2,700 acres, you may guess there is always plenty of white clover within a bee flight of there, and that was the centre farm, so I leave him and travel on past Babworth into Retford, not having passed a beehive by the wayside all the way from Worksop that I knew of, a journey of some eight miles. Now having travelled the last 12 or 15 miles on what is known around there as the forest sand land, striking the Leverton road out of Retford, the land quickly turns to clay or red marl. I pass a house where I have a faint recollection there used to be some toll gates in bygone days. A little farther on I leave Welham Hall on my left, as I rise the slope of Grove and Clarboro' Hills. The soil here is quite red, and in a little cutting through the hill there juts out a slab of white stuff, two to four inches thick, that, when ground into a powder, resembles Epsom salts. Anyway, it strikes a sharp contrast to the red clay above and below it. The day, which had been dull and warm, cleared off to a bright, sunny afternoon, which made one feel glad to be alive, for I am sure the thermometer must have been near 52: it seemed so warm. All nature seemed to be asleep, but the leaves on the blackberries were still a bright green. How quiet and peaceful: habitations are few and far between about here. I can see Little

Gringley across a field, where are three or four houses. A few bees used to be kept there in days gone by when I was through it; so I journey on, when suddenly the red clay turned yellow, and it was "some" clay, too. Someone ploughing it was turning furrows up that were all in a piece from end to end: not much about here for bees, I thought, on this stiff soil. But, oh! there is, for here is a field of beans, the first I have seen in my 40 odd miles' ride. A few more yards, and I have the whole Trent valley before me, and Lincoln Minster in the "teens" of miles away on the hill top the other side of it. Then I come into Leverton, where my journey ends for awhile, as I call to leave two very old friends one of my best heather sections. Never having seen heather honey before, they marvelled at the neatness and whiteness of the capping, and didn't they enjoy it for their tea? It was good to think one could give anyone such a treat, and as they have half an acre of apple trees, and bees not very plentiful about there, they thought of setting up a hive or two, so I had a look round. A better place would be hard to find than among those apple trees, and there seems a great lot of fruit in the village beside. "Why," I said, "you will get the price of a hive of bees in the extra fruit you would have." There are also good clover fields about, and that field of beans I passed was not over a mile away, while about 30 years ago a gentleman in the village planted a great many lime trees that are just getting to blooming age, so a few bees here would easily get their own living, and, perhaps, a little honey for the table as well. "And when should you reckon would be the best time to start?" "In April, by all means, then you get the full benefit of them on the fruit trees."

(To be continued.)

Echoes from The Hives.

Glorious weather; the Cornish Reveira is keeping up its traditions, and honey coming in great quantity. All my hives have two sets shallows on, and these nearly completed. I have had no swarms as yet, these having been prevented by giving ample room and plenty of ventilation by taking out the slides entirely, and on extra hot days opening the shutter in the floor board. This gives the bees great relief, and instead of having a small army at the entrance fanning, they are away in the fields gathering the precious nectar, chiefly from the white clover. In this district one cannot but notice the difference between last summer and this. This year seems all in our favour, although a few days of rain would be exceedingly welcome, otherwise our "flow" will be short and sweet, like the proverbial "donkey's gallop." What would be the cause of a bee with a *drone's head* and the *body similar* to a *worker* and possessing a sting? Have others ever noticed such? Of course, such things are rare, but I have noticed them.

Redruth. A. D. BENNETT.

[Hermaphrodite bees have been noticed a number of times. See "Cheshires Bees and Bee Keeping," Vol. I., page 208, and "The Honey Bee" (Cowan), page 165.—EDS.]

Derbyshire Notes.

A period of military service, during which time I lost all my bees, seems to have cut me off for a time from interest in matter apicultural. That is only partly true, however, My interest has been that of a jealous onlooker at others' pleasures. True, I made a new start in 1919, only to lose once again. And this year I am again attempting to form a new apiary, this time I hope with better success.

The possession of bees once again gives me a renewed interest in the craft, but I feel something like an apicultural Rip Van Winkle. Progress has been made and I have to take big strides in order to catch up once again.

What has happened lately? Metal combs have been invented, so I read; a new cause for "Isle of Wight" disease has been found out, and Dutch bees supposed to be resistant to disease have been and are being imported. New writers to the columns of the "B.B.J." have come forward and old ones seem to have disappeared. And, I am told, our gentle craft is now to have the pleasure of the patronage of the journal responsible for the boom in sweet peas and standard bread.

What wonderful bee-weather we have had. I was able to take off a super of shallow combs on June 2. The honey, which was chiefly from fruit bloom and sycamore, was beautifully clear and thick, with a delightful aroma and taste. I remark on this fact because I believe that this is the first time in my bee-keeping experience that I have had a full super of early honey. Things looked promising for me; but in a few days' time a prime swarm decamped during my absence from home. I say it was a prime swarm for want of a better term, but really it was headed by a virgin queen, for I found that it had issued during the process of requeening. The fact that it had a virgin queen at its head accounts somewhat for its power of flight. However, a second swarm following in two days stayed with me a little longer. I was able to hive it on the old stand and make up two nuclei in addition, so that I had three virgin queens on hand at once. These were mated and laying in less than one week —again a record for me—for in spite of what the books say I have found virgin queens slow to mate during the first week of their existence. I am writing without records by me, but, I think, that any virgins I have reared before have been close on a fortnight, or even more, before becoming fertilised. I think that in this case the exceptionally bright weather tempted them out at the earliest opportunity.

The original stock has now two supers on full of honey, and nearly ready for extracting. (To-day is June 26.) Those who have been fortunate or careful enough to prevent swarming must be doing exceptionally well. For all the good bee weather we have been having, we could now do with a break. The clover is dying down almost before it is well out, and all the land seems dry and parched. In this, I know, we are only having the same experience as those in other parts. A good downpour of rain now would continue the

flow well on into July. Then there are the limes to come along, and these generally give me a little surplus, too.

I became possessed on June 2 of a nucleus headed by a fertile queen, and consisting of four combs. To-day, there are ten frames of brood, bees and honey, and I have added a super of shallow bars. This, without the addition of any bees or brood and without feeding, I am rather anxious to see what progress this lot will make.

How pleased I was, once again, to see in the current number an article from the pen of our friend, Tom Sleight. What an eye he has for bee-keeping possibilities! And how delightfully he gives his experiences! To read him in print charms one. To know him personally and to have the pleasure and profit of hearing him talk on bees is an experience to be envied. We meet at times, but less frequently than I should like.

He is a man who tracks bees down to their hives on the moors by watching their flight, and who will spend whole days in a clover field finding out what flowers bees visit, and when, and why. A bumping honey year to him.

There seems to be a boom in bee-keeping. Several people lately have been asking me for advice and help in starting. All success to them, I like to see anyone begin. I like better to see them succeed; but I advise them to go slowly and make sure of every step. Although prospects now look brighter than any time during the last ten years, we have not yet conquered our difficulties, although fairly well at grips with them.—D. WILSON.

Questions, &c, for Bee-Keepers for Self-Examination.

(Students are recommended to write their answers, and check them afterwards by reference to books.)

529. How should hives of bees be made secure for removal to heather?

530. When a colony is moved to a new location, distant, say, half a mile, what can be done to prevent the bees returning to the old location?

531. Give briefly the history of the invention and development of the extractor.

532. What can be done to induce the field bees, which are away when a swarm issues, to join the swarm when it is taken and hived?

533. Estimate the relative values of the following for: (1) Pollen and (2) nectar: Dandelion, violet, laurustinus, gorse, willow, purple-leaved plum, crocus, wallflower, primrose, daffodil, gooseberry, red clover.

534. Compare the use of honey with that of sugar for (1) autumn-feeding, for (2) spring-feeding, and for (3) feeding a newly-hived swarm.

535. Describe exactly how a bee-hive should be painted and the kind of paint that should be used.

536. What is known as to vitamines in honey? J. L. B.

Corsham and District Bee-Keepers' Association.

A meeting of the members took place at the residence of the President (Admiral Sir Charles J. Briggs) on Wednesday, June 29. The President presided over the meeting. Those present were: Messrs. E. and F. Brown, Brain, Wiltshire, Golding, Ottaway, Ashe and Ray.

Mr. W. R. H. Ray was appointed Hon. Secretary in the place of Mr. Golding, who had resigned.

It was agreed that all bee goods and appliances needed by the members be purchased from one firm, Mr. Burtt, of Gloucester, being selected. Mr. E. Brown (the Treasurer) undertook to look after the appliance section of the Association.

It was unanimously agreed, on the suggestion of the Chairman, that two permanent meetings be held every year, namely, a spring meeting and an autumn meeting, the spring meeting to take place the first Saturday in March and the autumn meeting on the third Saturday in October. It was also unanimously agreed that the annual statement of accounts should be presented at the spring meeting.

The Secretary was instructed to purchase a nucleus from Mr. Bigg-Wither (of the Somerset County Bee-Keepers' Association) for the use of the Association.

Sir Charles, in proposing a vote of thanks to Mr. Golding for his secretarial duties since the formation of the Association, pointed out the good work he had done. This was endorsed by Mr. Brown. The vote of thanks was carried unanimously.

The President said he should have much pleasure in inviting all members to tea for the next meeting (July 16), when he hoped they would meet the County Council bee expert, and so arrange a series of lectures. Field-Marshal Lord Methuen, who is a keen bee-keeper, and member of the Association, having placed a large room at Corsham Court at the Association's disposal for the use of the lectures.

Mr. Wiltshire proposed a vote of thanks to the Chairman for his kindness and great interest, which was the backbone of the Association. This was endorsed by all present.—*(Communicated.)*

Chesterfield and District Bee-Keepers' Association.

On Wednesday evening, June 22, the Committee of the above recently-formed Association responded to the courteous invitation of their President, Mr. Lindsay, Cutthorpe, to visit his apiary and take part in an open-air demonstration on bee-management generally.

The evening of what is by repute the longest day in the year was fine and warm in continuation of the phenomenal drought we have recently experienced, which, though detrimental to garden produce generally, has proved a golden time for the bees. By twos and threes the visitors arrive, some on foot and some awheel, and though our means of locomotion were varied our interests were identical when once within the precincts of the apairy. Here, we are in the midst of a

scene of concentrated industry, and it was intensely gladdening to the heart of a bee-keeper to see rack after rack of bulging combs filled to overflowing, with luscious clover honey, while, at the same time, the remarks and the running comment of our host, as we passed from hive to hive, were a continual source of interesting and valuable information, much appreciated by all, but particularly so by the younger type of bee-men. The round being completed, we sat on a series of improvised seats, when pipes were lighted, and through the expanding wreaths of smoke, as they melted away in the air of a delightful summer evening, there ran a continual interchange of ideas and experiences pertaining to the fascinating hobby, at once edifying and instructive, for in bee-keeping, as in many other matters, there is always something new to be learned. Mr. Tom Sleight (who contributed such an interesting article in last week's journal), being present, raised quite a few smiles by his trite sayings and quaint remarks, and no doubt a few made mental note of some of his "tit-bits" of bee lore, evidently regarding them as "wrinkles" to be stored for future reference or application. I feel sure that such informal gatherings as this are capable of doing much towards rescuscitating the languishing bee industry. Another commendable feature is that they exercise a wonderful influence in promoting sociability, for if two absolute strangers should happen to meet and casually discover that both are bee-keepers they are on good terms at once, needing no further or formal introduction, and the spirit of comradeship which pervades the atmosphere of the whole bee-keeping fraternity is a spontaneous development equal to the spirit of Freemasonry, which is the result of age-long custom, and hundreds of years of rigidly applied regulations. But even the longest day draws to a close, and we, after an expression of our appreciation of our President's kindly and interesting entertainment, seek our distant homes with the consciousness that the evening has been delightfully and well spent. —GEO. GRIFFIN, Parkside, Clay Cross, June 24, 1921.

Doncaster and District Bee-Keepers' Association.

A most enjoyable meeting was held at the Grammar School, Doncaster, on Monday, June 27, when Mr. W. Herrod-Hempsall paid us a visit. The day was beautifully fine, and a large and enthusiastic audience listened to a lecture upon the proper way to work for surplus both of extracted honey and sections. The lecturer pointed out many mistakes which most beginners make, which is usually the cause of bees either refusing to enter the supers, or, at any rate, of half-filled shallow combs or sections. After the lecturer had answered a number of questions peppered at him from his keen listeners, Mr. Herrod-Hempsall gave us a short demonstration, showing how to introduce queens into queenless nuclei. A virgin queen was given them and received, after being rolled in honey, without any quarrelling, though no cage or other appliance was used.

Before his lecture, Mr. Herrod-Hempsall took four candidates in the preliminary examination for the expert certificate, and it was interesting for the spectators to watch the candidates, each at his own hive, endeavouring to find and catch the queen. Possibly some of the spectators did not enjoy this spectacle so much as others, since some of the candidates disturbed their hives to such an extent that the bees had to wreak their vengeance upon the innocent onlookers.

We only wish we could get eminent bee-keepers to come and give us a lesson more frequently, since lectures and demonstrations from such men not only increase one's members, but really benefit those who think they do know something about the craft. — M. YATE ALLEN, Hon. Secretary.

Staffordshire Bee-Keepers' Association.

The Staffordshire Bee-keepers' Association held their annual exhibition of bees and honey at Burton-on-Trent on June 15 and 16, in conjunction with the Staffordshire Agricultural Society. The classes were fairly well filled with first-class stuff, the open classes drawing entrants from practically all England. The Secretary, Mr. W. Griffiths, was ably assisted in the staging, and the work of the two days' show by Messrs. E. Jacques and Mylton as stewards. The exhibits were judged by Mr. Pugh, of Beeston, who gave every satisfaction, the awards again this year proving that the novice is quite able to stand up against old exhibitors, one novice taking the B.B.K.A. bronze medal and two bronze medals of the S.B.K.A. Messrs. E. H. Taylor, Ltd., Welwyn, gave a splendidly made W.B.C. hive to be awarded for the most points in the members' classes, and it was won by Mr. S. T. Durose, Stapenhill, with 17 points. Messrs. Steele & Brodie staged some first-class bee appliances, amongst them being several novelties. The following are the awards :—

Honey in any form, not to exceed 100 lbs. and not less than 60 lbs. : First and silver medal of the Staffs Agricultural Society, W. Collis, Gratwich; second and silver medal of the S.B.K.A., S. T. Durose, Stapenhill.

Four sections of comb honey : First and silver medal S.B.K.A., J. H. Mylton, Lichfield; second and bronze medal of the S.B.K.A., S. T. Durose.

Four 1-lb. jars of light honey : First and silver medal of the B.B.K.A., Geo. Buttery; second and bronze medal of B.B.K.A., J. W. Crosby, Hydes Lea; third, W. Collis; fourth, S. T. Durose; reserve, T. H. Lawton.

Four 1-lb. jars of honey (other than light) : First and silver medal of the S.B.K.A., S. T. Durose; second and bronze medal, J. W. Crosby; third, G. H. Mylton; reserve, T. H. Lawton.

Three 1-lb. jars of granulated honey : First, Miss K. Capewell; second, G. H. Mylton; third, S. T. Durose; reserve, W. Collis.

Shallow frame: First, S. T. Durose.

Beeswax: First, G. H. Mylton: second, W. Collis; third, F. Jolley, Milton.

Three 1-lb. jars of honey (novices): First and bronze medal, J. W. Crosby.

Three 1-lb. section (cottagers): First and bronze medal, Miss K. Capewell.

Three 1-lb. jars of honey: First and bronze medal, Miss K. Capewell; second, F. Jolley.

Observatory hive with bees: First and silver medal, G. H. Mylton; second and bronze medal, S. T. Durose.

Four 1-lb. sections of comb honey: First, J. Pearman, Derby; second, A. E. Warren, Bletchley; third, S. T. Durose.

Four 1-lb. jars of honey: First, A. E. Warren; second, A. H. Bowen, Cheltenham; third, J. Pearman; reserve, A. Berrisford.

Practical or scientific device relating to bee-keeping: First, Steele & Brodie; second, J. Price.

Appliances: First, Steele & Brodie.

(Communicated.)

Bletchley Show.

At the seventh annual horticultural and athletic show, to take place on August 1 at Bletchley (Bucks.), local and other bee keepers are to be encouraged to the extent of an open division with classes for comb, light, medium, and extracted honey. Most of the prizes will be subscribed by the Bucks. Bee-keepers' Association, one of whose most active members—Mr A. E. Warren, of Simpson—will exhibit a trophy of honey and give instructions and information in the keeping of bees. Entries should be sent to Mr. H. J. Clarke (secretary) by July 25.

Highland Show.

We would also draw the attention of our readers in the North to the Highland Show held at Stirling, July 26 to 29. In most of the agricultural classes the entries, which have now closed, are the largest for several years, and no doubt a good display of honey will be staged, though the entries are three below those of last year when the show was held at Aberdeen, the figures being:—Aberdeen, 69; Stirling, 66.

Horizontal Combs.

A neighbour had her bees die in the winter. In clearing up one hive for a new swarm she piled the frames of comb in another, not perpendicularly, but one on the other like a pile of plates. On visiting this dump we found that a small swarm had taken possession from the top, and had filled the first three combs with honey and brood, much of the latter sealed in nice big slabs. The top and bottom of each comb was equally used, tuns in the bottom bee-grubs were living the life of young wasps, hanging by their terminal hooks, and in the top were cradled like another remote relation, or ancestor, the solitary bee, Osmia or Andrœna —G. G. Desmond, Sheepscombe.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Immunity from "Isle of Wight" Disease.

[10473] My friend, Mr. Pettipher's article entitled "Immunity from 'Isle of Wight' Disease," published in your issue of June 2, contains a suggestion worthy of the attention of queen breeders. The employment of the microscope in the selection of breeding stock should be a great aid to the improvement of the physique of bees.

He was unfortunate in not having the advantage of the information published by Dr. Rennie since the writing of his article, as, otherwise, besides seeing that Dr. Rennie is not slinging fancy words about when he names *Tarsonemus woodi* as the cause of "Isle of Wight" disease, he would also see that the four tests for immunity to which he subjected his bees were far from being conclusive.

According to Dr. Rennie, the acarus can only live on or within a live bee. It cannot live in frames, hives, stores, or dead bees for any great length of time.

In test No. 1, bees were wintered in a hive in which a stock had died from acarine.

In test No. 2, a month's starvation was added, and they were placed in a damp situation.

In test No. 3, a stock was put into a hive containing the remains of a colony which had died of the disease.

In test No. 4, the bees were wintered without any packing over the frames.

In none of these tests were the bees brought into contact with living acarus, and the disease was not therefore likely to be induced. The starvation of stock No. 2 would thin out the numbers of bees but would not induce disease.

Test No. 3 has been carried out in thousands of cases where swarms have taken possession of diseased hives and prospered.

Test No. 4, although likely to result in a heavy consumption of stores and greater fouling of the hive, should not result in the loss of any healthy colony.

If Mr. Pettipher wishes to demonstrate the immunity of his bees from acarine, he must take stocks of living bees which have been proved by microscopic examination to be suffering from the disease, and unite them with "Shrinewood" bees or re-queen with "Shrinewood" queens. If the stocks make a permanent recovery, he can claim to have found an immune strain.

Having been rather favourably impressed by the performance of a number of imported

Italian queens in my time, I am sorry to see them receive such condemnation from Mr. Pettipher, and I should like to hear whether the queens, descended from Italian queens, used by him were of pure blood, whether they were of the same age as his own queens, whether they headed colonies of the same strength and with similar proportions of old and young bees, as did his own stocks, and if the tests were carried out at the same time? I ask these questions as I have known Italian queens get going when things seemed pretty hopeless.

He states that, on uniting these stocks with stocks of his own, the Italian queens were thrown out because they were "no good." This appears to indicate that "Shrinewood" bees, like Dutch, do not take kindly to strange queens, rather than that the queens were "no good."

No doubt these bees with big wind bags are all right; but Mr. Pettipher says nothing of the fecundity of his queens, or of the longevity, honey gathering powers, non-swarming tendencies or temper of their offspring.

These are the properties most bee-keepers will continue to look for until they find a bee that is absolutely proof against acarine, and, possibly, even afterwards.

I do not wish my references to Dr Rennie's statements to suggest that I advocate the leaving about of hives in which bees have died from acarine or the use of such hives again without thorough cleaning and disinfecting, as, in the first case, it provides a meeting place for bees from all stocks in the neighbourhood, the diseased bees infecting the healthy stocks, and in the second the presence of decomposing bodies, foul excrement, etc., left in the hive, cannot but have a lowering effect on the health of the bees introduced. Besides these, there is always the possibility of some other disease, which can be transmitted in this way, being present.—E. C. Hipkins, B.Sc., 18, West Pathway, Harborne, Birmingham.

Questions on "Isle of Wight" Disease.

[9926] I have been tempted many times to write and ask questions on the "Isle of Wight" disease, but have as frequently refrained in the hope that the information would be coming out in your journal. The first question to my mind is of great importance, namely, have signs of the "Acarine" disease been found in wild colonies or bees other than the domesticated apis? If this is so, then, the question of preventive medicine as regards our hives takes quite another aspect. We cannot go to the Treasury and ask for funds to compensate for the destruction of stocks and hives if the disease is present in natural colonies; moreover, would the destruction of these stocks be of the slightest use? The other question refers to the *presumably defunct* microbe which was stated to be the cause of the disease. Have the originators of the microbe theory brought forward any evidence of bees being inoculated with the microbe and subsequently developing the disease? Till this has been tried we do not know whether we are fighting one or two diseases, and to fail to find the acarus in infected bees does not prove them not to be suffering from the symptoms of "Isle of Wight" disease.

Take the classical medical example of typhus and typhoid, which were for years thought to be one and the same disease, for an instance of what I mean. I have seen no definite proof in your columns to the effect that the microbe is not the cause. Trusting that you may be able to enlighten us on these questions.—Arthur Wood.

Reply.—We sent the above letter to Dr. Rennie, and he has very kindly given the following reply. It is not, however, possible to deal with some points in a short reply :—

(1) So far Acarine disease has not been found in colonies of wild bees, but it may be found in them any day. We are still on the search. The writer begs the whole question when he assumes that it will be necessary to indulge in the "destruction of stocks *and hives*. (Italics mine.) I should say a stock would not be destroyed until it was useless to the owner, and a menace to his neighbourhood. Under the circumstances it is silly to ask "Would the destruction be of the *slightest use?*" Let the writer ask this question in the case where *his* bees are healthy and his neighbours are rotten with disease.

(2) Regarding the second query. We do know we are fighting not one, nor two diseases in adult bees, but *three* at least. A little patience will have to be exercised. Research, to be worth this name, must progress by *sure* steps, and means slowly. Your correspondent clearly has read very little of what has been published in recent times regarding bee diseases. His "problems" regarding the "microbe theory" (I suppose he means *Nosema apis*) have all been solved long ago.

M. T. T. (Enfield).—*Preserving queen.*—The queen may be kept alive in the travelling cage for several days if kept warm, and there are about a dozen live worker bees with her and there is plenty of food. Under these conditions we have kept them alive for over a week, our plan being to place the cage on the top of the first quilt over a strong colony, and covering with the felt or carpet wrappings. Care must be taken that the bees of the colony do not have access to the cage.

"Welsh" (Cardiff).—We do not know anything of the "cure." If you could tell us what paper it was in or send the cutting we might be able to give more information.

Swarm in neighbour's garden.—If you saw the bees issue from your hive and kept them in sight until they clustered you could claim them, and if refused permission to get them could obtain damages in the County Court. We are not versed in the law, but should say that in jumping the wall into your neighbour's garden without premission you render yourself liable to an action for trespass and damage.

T. S. P. (York).—*Price of honey.*—See report of B.B.K.A. Council meeting in "B.B.J." for June 30, p. 293.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d. up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

July 13, at Shedfield.—In connection with the Shedfield Horticultural Society's Show. Open to all bee-keepers in the area of the Swanmore and Bitterne branches of the Hants and Isle of Wight Bee-keepers' Associations. One Open Class for all bee-keepers in Hampshire.

July 13.—Wickham Bishops and District Bee-keepers' Co-operative Association. Group 2: Open to bee-keepers resident in Essex. Class 80, four sections, 1st prize, 7s. 6d.; 2nd, 5s. Class 81, 1 lb. extracted honey, 1st prize, 5s.; 2nd, 3s. Class 81a, cake of beeswax, ½ to 1 lb. weight, 1st prize, 5s.; 2nd, 3s. Group 3: For bee-keepers resident in the British Isles. Class 82, 1-lb glass jar of 1921 run or extracted honey, 1st prize, 20s.; 2nd, 10s. 6d. Exhibits in Class 82 to be the property of the Association, and will be distributed among hospitals in the County of Essex. Entrance fee 6d. per class. Rules for exhibiting on back of entry form.—All entries to be sent to R. A. Pelly, Hon. Sec., Wickham Bishops, Essex. **Entries closed.**

July 20, at Alexandra Recreation Ground, Surbiton.—Surrey B.K.A. Show. Twenty Classes. Two Challenge Trophies, ten Silver, and 15 Bronze Medals. Eight Open Classes.—For Schedules apply Hon. Sec., W. E. Hamlin, 43, Norbury Court Road, Norbury, S.W.16.

July 21, at Bath.—Somerset Bee-keepers' Association's Show in connection with the Larkhall Horticultural Society's Show. Several Open Classes.—Schedules apply Mrs. Wallace, 151, Newbridge Hill Bath. **Entries close July 16.**

July 20 and 21, 1921, at Cardiff.—Cardiff and County Horticultural Society's Show, Sophia Gardens, Cardiff. Bee section under the auspices of the Glamorgan Bee-keepers' Association. Open Classes.—Schedules to be obtained from the Hon. Secretary, Chas. F. Davies, 5, Borstal Avenue, Cardiff

Saturday, July 23, 1921.—Wyke and Normandy and District Horticultural and Agricultural Show. Honey (Open):—Class 71: Section Honey, best three sections, 5s., 3s., 2s. Class 72: Run Honey, three 1-lb. glass jars, light, 5s., 3s., 2s. Class 73: Run Honey, three 1-lb. glass jars, dark, 5s., 3s., 2s. Entrance 6d.—H. L. Mumford, Hon. Sec., Heatherside, Normandy, near Guildford. **Entries close July 16, 1921.**

Saturday, July 30, and Monday, August 1, 1921, at Lichfield.—Lichfield Floral and Horticultural Society's Show. Bee and Honey Section under the auspices of the Staffs Bee-keepers' Association. All classes open.—Schedules may be obtained from the Hon. Secretary, A. H. Perrins, 30, Tamworth Street, Lichfield, Staffs.

August 20, 1921, at Ammanford.—Carmarthenshire B.K.A., in connection with Ammanford and District Horticultural Show. Silver and Bronze Medals for Members' Classes. Open Classes for Honey, Wax, etc. Good prizes.—Schedules from W. Comery, 13, New Road, Ammanford. **Entries close August 17.**

September 17 to 23.—British Bee-keepers' Association Annual Show at Grocers' Exhibition, Royal Agricultural Hall, Islington, London. Entries close September 5. Schedules from Hon. Sec., B.B.K.A., 23, Bedford Street, Strand, London, W.C.2.

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PRIVATE ADVERTISEMENTS.

BROTHER BEE-KEEPERS.—Country Apartments, board and residence; trout fishing.—HORSLEY, Greeba Mills, near St. John's, I.O.M. r.r.12

FOR SALE, pure Light Lincolnshire Honey, finest quality, £8 cwt.—W. SCHOFIELD, Spilsby Road, New Leake, Boston. r.1

SAINFOIN AND CLOVER HONEY for sale, large or small quantities; Sections, 2s. 3d.; Run Honey, 1s. 9d. lb.—T. NORRIDGE, Eastern House, Anna Valley, Andover. r.2

4-FRAME STOCK for Sale, £2; 6-frame Stock, £3; 10-frame Stock, ready for supering, £5; 10s. box, returnable.—R. CLAYDEN, 1, Bostonthorpe Road, Hanwell. r.3

THREE STOCKS of Italian Bees on 10 combs. 1921 Queens, £4 15s., carriage paid; on safe return of box 10s. refunded.—DOBSON, Hunton Bridge, Herts. r.4

FOR SALE, Extractor, Burgess' Ideal, reversible 4-frame, geared, free wheel; cwt. Ripener with strainer and lift; wire-framed Clearer Board; practically new; moving to London; listed over £8, for £4 10s. cash.—FORD, Close Downton, Salisbury. r.6

FOR SALE, natural June Swarms, hived on 3, 4, 5 and 6 frames, full sheets foundation, price 27s. 6d., 32s. 6d., 37s. 6d. and 42s. 6d., carriage paid; box 10s., returnable.—KNIGHT, Kenwyn, Truro. r.7

TWO strong 10-frame Stocks Italian Hybrids, £4, carriage forward; box returnable.—MRS. WACE, Grandpont House, Folly Bridge, Oxford. r.8

FOR SALE, this season's pure Light Cambridgeshire Honey in 28-lb. tins, £8 per cwt.; sample 6d.—Tithe House, Wilburton, Ely, Cambs. r.10

SURPLUS STOCK healthy Bees for Sale.—JEWITT, Hensall, Whitley Bridge, Yorks. r.r.11

YOUNG FERTILE QUEENS, reared regardless of cost, price 1 guinea each; deposit system.—Box YZ., B.B.J. Office, 23, Bedford Street, Strand, W.C.2. r.13

WANTED, "Bees," No. 3, March, 1902, edited by E. A. Geary.—VASLET, Cambridge. r.15

STRONG SURPLUS STOCKS, Hybrids, 10 frames, and crowded in supers, £5.—RECTOR, Llandyssil, Montgomery. r16

FOR SALE, pure Lincolnshire Honey, £9 per cwt.—ROPER, Thorpe-on-the-Hill, Lincoln. r.17

WILL Gentleman who wired reply to my advertisement June 16 kindly write?—HULBERT, "Chalet," Warwick Road, Olton, Warwickshire. r.18

FOR SALE, two W.B.C., two Cottage Hives, good condition, six Shallow Frame Supers, three Section Racks, £5.—COATES, Broadheath, Presteigne. r.21

BARGAIN:—Strong, healthy Stock Hybrid Italians on 10 frames (wired), 1920 Queen, ready for supers, £4 10s., carriage paid; box 10s. extra (returnable).—F. BIGGE, Tyburn, Birmingham. r.9

FOR SALE, one large, healthy May Swarm of Italian Bees in new hive fitted with new drawn-out comb, full of brood and honey, 90s., carriage paid; genuine bargain. — CHARLES GILL, Hill Apiary, West Hatch, Taunton. r.20

FOR SALE, together or separately, large Extractor, Ripener, Strainer, Wax Extractor, seven large Hives (Burgess), five small, Frames, etc.—Apply, CROSS, Crewes Farm, Upper Warlingham. r.22

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FOR SALE, Bee Tent, suitable for show demonstration; excellent order.—BEE, Bookstall, Pulborough. r.36

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WHY not exhibit in Surrey County Show? Seven Open Classes. Good prizes. See advt. under "Shows to Come." r.q.158

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PURE ITALIANS, 3-frame, 2 gs.; 4, 2½ gs.; Hybrids, 4-frame, £2; Queens, 1921, pure, 10s.; Stocks, 8s. frame.—HENSLEY, Luton Apiary, Queen's Road, Chatham. r.6

PURE ITALIANS.—1921 imported Penna Queens, immediate delivery, 6 frames, 60s.; 8, 70s.; 10, 80s., carriage paid; boxes returnable.—WADHAM, 5, Gold Street, Cardiff. r.r.37

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HARDY ITALIAN NUCLEI, 4 frames, £2; 6 frames, 55s.; no disease or winter losses.—LILLEY, Lamarsh, Bures, Suffolk. r.r.26

NATIVES, good disease-resisting stock, 4-frame Nuclei, 42s.—ALUN JONES, Halkyn, Flintshire. r.27

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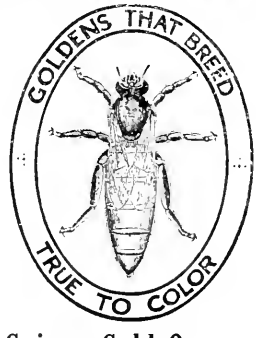

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DUTCH BEES.

¶ To keep bees profitably, when bee diseases are still rampant, is a problem which for long remained unsolved until the introduction of Dutch bees on an extensive scale in this country, and the increase of knowledge regarding their proper management. To any reader of the JOURNAL I shall be pleased to forward interesting literature and price list on application.

¶ Characteristics: Dutch bees are credited by all impartial critics with splendid prolificness, eminent suitability for comb honey production, and fitness for use with large hives; and, above all, their remarkable resistance to *Acarine disease*, as confirmed by recent research (see Dr. Rennie's Report, pp. 747-751).

¶ Supplies: (1) Skep colonies, with full combs, strong and guaranteed healthy. Each £4, carriage paid. *Immediate delivery.*

NOTE.—These are *not* small driven lots with half depth combs.

(2) Ten-comb stock in "Cumbernauld" hive, with excluder and crate of sections, £6 10s., carriage *forward*. *Immediate delivery.*

¶ References: "Those who fancy this variety cannot get them from a better source than 'Orme Lodge Apiary,' Mr. Whyte is Agent for the best known and largest bee-keeper in Holland, Hans Matthes."—The B.B.J., March 10, 1921.

"The championship of the Dutch bee, for which Mr. Whyte is known, receives an illuminating tribute in his catalogue, which is a literary and practical treatise on this hardy race of bees."—The *Bee World*, April, 1921.

R. WHYTE, Orme Lodge Apiary, Cumbernauld, Dumbartonshire.

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Seasonable Hints.

What promised in the earlier months of the year to be a good honey season has been spoiled by the drought, and though an improvement on last year, we are afraid the honey harvest will be only moderate. At the present time there is very little nectar being collected by the bees, and in this dry, scorching weather it will be thicker than usual. Most of the bees' watering places are dried up; a constant supply of water should therefore be provided. The large number of bees that may be seen taking up water from any spot where a leakage occurs proves how necessary it is for their well being.

In some districts there is a quantity of that bane of the honey producer—honey dew. There is usually a supply of this substance during prolonged, dry weather, but there is not so much about this year as one would expect. Unfortunately, the stuff is of no use either for table honey or for feeding the bees. We had a dose of it many years ago, which we took to a manufacturing chemist and let him have it at his own price—this, so far as we remember, was 2d. or 3d. per lb.

So long as the bees have room it is very little use, speaking generally, giving more supers, especially sections. In some places it is possible that when rain comes clover and other plants may flower and yield some surplus. We have had it occur more than once in our district, and hope it may do the same this year. It is, in any case, well to be prepared, and should there be a prospect of a late flow, in addition to the heather, to remove and extract any combs containing honey dew as soon as good honey is being stored.

At this time of the year queen excluders may be dispensed with under sections.

It is possible that late swarms, nuclei, or even some old stocks may need feeding. If there are few or no limes, brambles or other nectar-producing plants in the neighbourhood, it would be well to make sure. In our district bees are working on brambles chiefly, and there is also a fair crop of knapweed (hardhead). These and a few other flowers are keeping things going.

A Dorset Yarn.

This season all visitors speak of abundance of honey. Those who work combs for extracting have had the ten filled in ten days, where one visitor had the sections on three weeks before bees began to fill them. One assures me that the whole ten combs are filled before the rack of sections, even where a stock had had sections with some honey for enticing them up. Every one to their fancy—we are doing both. Through the glass the bars look best on the top; but they want to join them together so much with brace pieces, where we wanted a few perfect ones for exhibition, have had to go over them and take off these tie-pieces with a knife, so that all should be capped over evenly.

We have had six of the new combs drawn out and partly filled in one week, even though the upper one is not all capped. Up to the end of June we have taken off most honey where there is only one brood box (with queen excluder over it in May and June). One with standard bars and shallows with brood in each has completed two racks of sections; it still has five others, and has not swarmed. We are now taking off sections from stocks that were started with three combs, and the queen on May 2. A natural swarm, on May 19, has on four racks, one harvested. Another same date of swarm has one box of standard combs complete with two racks of sections beneath, and we have now taken out the excluder from this. In the brood combs where the young bees have emerged, much honey is being stored. This is so with the May swarms. If they fill these cells with honey so early, it shows the great flow of honey is closing in. It is in August that we have noticed the filling of brood cells in other years; the nights are cold, that may have something to do with it.

We have close to the farm some of the late flowering limes, only the high road between them and the bees. That bees are with them early and late all day and every day is assured; the advantage to me is their extreme closeness. Have seen many lime trees at eventime without a hive bee at all, for bees do not take long journeys at eventime. It is the humble bees that work up till dark, but ours are going out at a very early hour, and are still on at 9 o'clock at night (modern time). It might interest some of your readers to know that these trees were planted by an old resident, who left a peculiar will. He had built a small house and small school, and endowed it for the teaching of poor boys in the religion of the Church of England. The teacher must be a woman, and she was not to be married (nor must she have children). The boys had to wear the long overall, or "smock," as it was termed in Dorset (many old men wore them forty years ago), but the limes he planted every year give food for the bees, shade to the playground, and make the earth more beautiful.—J. J. KETTLE.

Observations.

(*Continued from page 297.*)

My daughter's tones about "coming to dinner at once," were too peremptory to be neglected, so I shut up the hive and hastened to obey. Dinner over, I went down the garden to start afresh, arriving at the hive just in time to see the bees swarming out with a nice yellow queen, which I caught on the alighting board and transferred to a matchbox in my pocket. She was scarcely disposed of safely when another appeared, to be immediately caught in the same manner, my neighbour's matchbox being requisitioned this time. Then I proceeded to open up the hive, and found a third queen, rather small and dark, which I must have missed in the morning. She was disposed of by placing her on the hard ground under the ball of the foot, when a little downward pressure continued until the space between the foot and the ground was to all intents and purposes *nil*, removed her for ever from this world of trouble and sin. This is how the sergeant-major and his underlings would have explained the process of obliteration I had to employ.

After this swarming episode I decided only to put one of the remaining queens back into the hive, and as I knew of no one requiring one, nor which to retain, I decided to let them fight it out. I opened the two matchboxes in a large cardboard box and put a sheet of glass over. The queens spotted each other at once, and a short but severe and determined fight left one the undoubted victor, and apparently fit and active. This I returned to the nucleus, where she now is.

The following Sunday she was still unmated, when she again supplied me with an interesting episode. About noon I was watching the hive when I saw several drones flying around in a state of excitement. Then bees kept coming in and out, and as they came out turned with their heads towards the exit and pirouetted backwards and sideways down the flight-board. Presently the queen emerged. I could hardly say that they pushed her along, although I would not care to assert that they did not do so. I am, however, convinced that some form of suasion was being used and that she was quite reluctant to leave the hive. She came nearly to the edge of the flight-board, definitely made up her mind that she did not like it and would submit to no coercion, and without the display of any undue haste made her way, in a quiet but determined manner, back into the hive. From the subsequent movements both of the drones and workers they were evidently endeavouring to prevail upon her to make another exit, but without any success. I feel sure she never came out again that day, and it was not until six days later, or fourteen days after emerging, that she became mated.

I still think that there is considerable room for investigation in connection with the life of the virgin queen from the time of her issue from the cell to the time of mating. During the first two days or so very little notice is taken of her by the other bees, but their subsequent interest develops rapidly, and from the third day onwards she receives the attentions of almost every worker she passes in her wanderings over the combs. These stroke her all over with their antennæ, and on the fourth and fifth days she may be constantly seen to be the centre of a group of bees, all of whom are assiduously stroking her body wth their antennæ.

This action has something to do with preparing her for her marital flight, and on the fifth day after emerging, if the weather is at all favourable, the bees will circle hurriedly round every comb, especially close to the exit, and run around in a very excited manner, and even butt into the queen with their heads, and create a sort of vortex of movement of which the exit is the centre, and it would appear that the queen makes her flight under the influence of this excitement, the direction of her movement being controlled by the stream of movement towards the exit set up by the workers themselves.

Thus we have one more evidence of the fact that the worker bees control every issue, and the queen is such in name only, and in no regal sense can lay claim to that title at all.

—A. RICHARDS.

"The Dimmons."

A little while ago someone, describing a visit to the apiaries of Signor Penna, at Bologna, stated that this great practical worker among the bees raised queens by both the artificial and natural cell methods.

Signor Penna at once wrote an emphatic denial to the "B.B.J.," declaring that he never raised queens except by the best artificial methods, as expounded by Doolittle, of America, the inventor of the famous cell-cups.

This was a nasty smack to the "leave it all to Nature" school, but undoubtedly Penna was quite right, as anyone who has given the various methods of rearing queens a fair trial will admit.

When the workers are left to rear a queen in their own haphazard way, they will often start one in a worker cell, in which the princess is both cramped and under-fed. They will also place the cells in all sorts of odd positions around the edges of the combs, where there is not a sufficiency of heat to ensure perfect incubation. Also, where a queen has been lost or removed, they will often select a larva for royal honours which is much too old to develop into a perfect queen.

All these defects are removed by an expert working by the best artificial methods. The cells are large and commodious, they are given a liberal supply of royal jelly, the larvæ selected are of exactly the right age, and from the commencement of incubation till within a few hours of emerging they are kept in the warmest part of a tremendously strong stock, where the hosts of workers have little to do but minister to their needs.

A very good test of sincerity in a matter like this is to ask what kind a man prefers for his own use. Well, ever since I tested all the known ways of queen rearing, and found what kind of product they yielded, I have not used any other queens except those reared in cell-cups for re-queening the stocks in my own apiaries. I am convinced they are superior to others, and infinitely

better than those produced by the bees without human guidance.

To the above general statement I must make one exception. I did re-queen one of my stocks some years ago with a naturally raised queen, which stock came to be known by the title which I have given to this article. And all for a whim.

I was experimenting with another American method, and had given a queenless stock a prepared frame of comb, in which certain cells were defaced, and the bees left to raise queens in the others. In such circumstances the bees delight in trying to steal a march upon the apiarist, and, if they can, will raise a cell or two upon their own combs, the young queen emerging from which, in advance of those given to them, will quickly make hay of the rest.

When searching for such "rogue" cells, I one day noticed a funny projection from the top of a comb, half queen cell and half drone, which I was about to pick off, when there was a crack and a wriggle, and a princess dropped out and fell to the ground. It had been just on the point of emerging. I looked for it for some time, and finally concluded that it had been lost among the grass.

It is said that there are some things which even the most stoical people cannot stand; and a Red Indian, who will bear torture at the stake without a quiver, will jump up with a yell of alarm if he finds a centipede crawling over his naked body. Now, bees and centipedes are not to be mentioned in the same breath, but, much as I like bees, and familiar as I am with them, I must confess to a creepy feeling when I sense one investigating the quality of my biceps under shirt and vest.

I had finished inspecting my queen-rearing hive, and was sitting restfully, when a number of little feet began a procession from my elbow to my shoulder. Repressing the Red Indian feeling, I gently removed my clothing, when out dropped, not an inquisitive bee, but the identical princess that I had seen fall from the queer, narrow queen-cell. She had dropped into my open sleeve instead of to the ground, and had gone to where she found it comfy.

"Well," I said, "you are a funny bundle, but I will give you a chance for your life," so dropping her into a queenless nucleus, I left her to her fate.

That stock must have bred nearly all through the winter, for in the spring he hive was full of bees. That they were vigorous was patent; they were industrious without denial, but they were at once the most shameless robbers and the worst-tempered bees I have ever had. They filled two racks of sections from fruit blossom alone, and then I took all their brood and stores to make nuclei. Through all that summer I plundered them remorselessly, and in August they were on bare boards. Yet when I went to feed them up for winter, I found, to my astonishment, that they had about a dozen pounds of store. Where on earth they got it I do not know, but there was none in the fields, and some poor stocks in the neighbourhood undoubtedly suffered.

(To be continued.)

Queen Rearing for Beginners.

Lift above a strong stock three or four combs of sealed brood with adhering bees, making sure not to take the queen. Fill up with drawn-out combs or sheets of foundation, place queen excluder over, and a rack of shallow bars and another excluder on top of that.

Put the four combs of brood, which *must not* contain any unsealed larvæ in a hive body or brood box, on top of the shallow bars, and leave for two days.

Graft some queen cells, using cell cups made on a mandril, or drawn-out drone comb may be substituted, and place, after fixing in an empty frame, preferably attached to a piece of wood, a third of the way down, between the combs of brood, and at the same time sprinkle with thin warm syrup.

The bees cleaning up the syrup will rush to feed the larvæ, and finding them in queen cells only, and being far enough from the bottom brood chamber and queen to feel queenless, will deposit royal jelly in some of the cells, perhaps not more than two. Another sprinkling three or four hours later will add to the quantity of royal jelly in the cells accepted, and the next day some of this can be put into a lot of fresh grafted cells, with a further sprinkling, which will all be accepted.

The cells thus started should not be left longer than two or three days, but can be transferred to the supers of any strong stock to be finished, bearing in mind that the strong stocks only are capable of rearing the best queens, and that if placed in a section rack it is necessary to have an excluder underneath.

Those four combs will start quite a lot of queen cells before all the brood emerges, and the process can be repeated when that happens if enough queens have not been reared.

It is far better for beginners not to dequeen, as there is always the trouble of reintroduction to go through with, and by this method the work of the hive goes on and honey is being stored. If the queen cells are placed in the colonies which need requeening the young queens can be allowed to emerge before the removal of the old queen below.

The old queen need not be killed until the new one is mated: she can be caged in the supers where the virgin was reared. Of course, directly the virgin is mated and laying, remove and destroy the old one, but let her on brood combs again if the virgin gets lost in mating until you have another virgin ready.

I have noticed a lot of beginners dividing their stocks indiscriminately, relying on the divisions to make their own queens, which, of course, they will, but they will be very inferior to those reared in a strong colony with an abundance of royal jelly and plenty of heat.

Re the article reprinted from the *Scotsman* in Journal of June 23, it makes one think. There is not a doubt but that the British bee is, or was, the best suited for this climate.

The Italian bees, in my experience, are soft, and won't do here on the East coast Whether they would eventually become acclimatised I don't know, and I am not going to find out. Last year I saw bees in trees (two lots) that the farmer assured me had never died out in the twenty years of his occupation, and I got one lot out then and the other out this May. They are blacks, and I am rearing queens from one and drones from the other, to re-queen all my colonies from the tree stocks.

There were hundredweights of honey in the hollow trees, the accumulation of years; some of it had granulated. The slabs of brood were from six to ten inches wide, and twerty four to twenty-eight inches deep, honey stored above and below, the brood being in one tree just above the entrance hole and in the other just below. That they are splendid honey gatherers I have proved, but while the interior of the trees showed little or no signs of propolis, the hives the bees are in show the reverse.—GEORGE J. CLARKE, Ferndale Apiary, Blythburgh.

Chesham and District Bee-Keepers' Association.

ANNUAL MEETING.

The second annual meeting of members of this Association was held at the Literary Institute on Monday, June 13, 1921. The large number present was an index of the enthusiasm of local bee-keepers, as well as an indication of the progress made by the Association since its inauguration in 1919 In the absence of the President (Lady Chesham), the chair was taken, in an able and courteous manner, by Mr. A. T. Stephenson (Chairman of Committee).

Reports were given by the Secretary, Treasurer, and Expert respectively, and were unanimously adopted as being statements indicative of the highly satisfactory condition of the Association as a whole, every phase of its activities revealing success.

Since its inception, the Association has developed and progressed appreciably, and continues to do so.

The three periodic visits given gratis and annually by the expert (Mr. F. Hobbs) have not only resulted in that effective union of theory and practice, but have certainly helped to produce and retain that "high tempera ture" so symptomatic of the bee fever, which, having once impregnated the human system, renders the patient susceptible to recurrent attacks.

Among many and varied matters connected with agriculture which the Committee has discussed is that of the labelling of honey, as recommended by the Ministry of Agricul ture. Although the provision of an Association label has been considered, and may, in the future, become a realised fact, yet for the present the excessive cost forbids such a venture.

Labels have been provided for members, and are obtainable from the Secretary, but it is the opinion of the Committee that until there is legislation to compel all foreign honey to be labelled as such there is little advantage to be gained by a policy of *laissez-faire*.

The second honey show was held on August 28, 1920, by the kind permission of, and in conjunction with, the Chesham Allotment Association. It proved to be a great success, considering the unsuitable season. Entries were limited to members only, who were supplied with printed schedules for the first time. In all, about 30 exhibits were staged for the six classes. The standard of produce was high, and the judges, Messrs. Woodhouse and Channer, were delighted with the display.

Affiliation with either the Bucks County Association or the British Bee-keepers' Association having been declared by them to be impossible, the Committee has again recommended that arrangements be made for Mr. E. A. Hayes to become a representative member of the B.B.K.A.

Correspondence, with a satisfactory result, has passed between the Secretary of the Bucks Agricultural Committee (Mr. T. Goss) and the Secretary of this Association.

At the invitation of that Committee, and with their approval, Messrs. A. T. Stephenson and E. A. Hayes have been co-opted as members of the County Bee-keeping Sub-Committee.

"The Apis Club," which issues the "Bee World," have forwarded specimen copies of their periodical. These have been placed in the hands of members of this Association for their perusal. Membership of this Club will prove of value and interest to all who join.

For the season 1921 it has been decided to again fix the price of retailed English honey produced in the apiaries of the members. The minimum price for 1-lb. jar of "Extracted" honey is to be 2s., and for 1-lb. section 2s. 6d.

It is with unalloyed satisfaction and pleasure the expert reports that all members who were in need of swarms during the season 1920 were supplied with them at the recognised rate of purchase. There were on May 1 at least 44 stocks intact, which were declared to be in a very healthy condition, the Isle of Wight disease having hardly, if at all, affected any apiary.

A course of six lectures was given by Mr. J. Neighbour, the County's expert, in Germain Street Central Hall, during the winter season 1920-21, under the auspices of the Chesham Higher Education Committee.

It is with deep regret that the Government found it necessary, during the past year, to permit the "Bee Disease Bill" to suffer so premature a demise. It is for every member to do all that is possible so that this Bill may become law at an early date.

A debt of gratitude is due to each of the gentlemen who supported the Association financially in connection with the show, viz., Lord Chesham, A. W. Gamage, Esq., Drs. Long and Johnson, Sir Hartman Just, and others

Hitherto the Association has not possessed its own authorised apiary, but it is hoped that, if prosperity continues, such an idea may be realised.

The Treasurer reported a total annual ex-

penditure of £18 17s. 7d., with a balance in hand at the close of the year of £3 12s. 7d.

The best thanks of the Association were accorded the Chairman and officers for their efforts and enterprise during the past year. Lady Chesham was unanimously re-elected as President

(*Communicated.*)

Derbyshire Bee-Keepers Association

The Derbyshire Association's annual show, held in conjunction with the Royal at Derby, proved to be of a praiseworthy character. Entries were satisfactory, and the quality of the exhibits being of a high standard of excellence. The judge, Mr. J. Tinsley, of Kilmarnock, experienced no easy task in the allocation of awards. Mr. J. Pearman distinguished himself by securing the coveted gold medal and two silver cups, while Mr. S. T. Durose (Stapenhill) won the silver medal competed for by members of the Staffordshire Association only.

Mr. T. Arnold (Derby), obtaining the highest number of points in the Novices' classes, captured Dr. St. John's Cup.

A large exhibit of exceptionally good hives and bee appliances staged by Messrs. Lee & Son (Uxbridge) was a feature of the show.

Practical demonstrations kindly given by Mr. J. Tinsley, Rev. H. R. N. Ellison, Mr. H. J. Morris, Mr. S. T. Durose, and Mr. A. Green (Ripley) were much appreciated by crowds of interested visitors.

OPEN CLASSES.

Most Attractive Display of Honey.—1, J. Pearman, Derby; 2, S. T. Durose, Stapenhill, Burton-on-Trent; 3, R. Moncrief, Allentown, near Derby. (3 entries.)

Six Sections of Comb Honey.—1, G. Marshall, Norwell, Newark; 2, G. Evans, Bromstead, Newport, Salop; 3, J. Pearman, Derby. (7 entries.)

Six 1-lb. Jars Light Honey.—1, G. Marshall, Newark; 2, Rev. H. R. N. Ellison; 3, J. Pearman, Derby. (23 entries.)

Six 1-lb. Jars (other than light) Honey.—1, S. T. Durose, Burton; 2, H. W. Edwards, Coleshill, Birmingham; 3, W. H. Barlow, Knutsford; h.c., J. Pearman, Derby. (12 entries.)

Six 1-lb. Jars Granulated Honey.—1, S. T. Durose, Burton; 2, A. H. Bowen, Cheltenham; 3, J. Pearman, Derby. (13 entries.)

Six 1-lb. Jars Heather Honey.—1, J. Pearman, Derby.

One Cake Wax, not less than 1 lb. or more than 2 lbs.—1, J. Pearman, Derby; 2, H. W. Edwards, Coleshill; 3, G. Marshall, Newark. (7 entries.)

MEMBERS' CLASSES.

Six Sections Comb Honey.—1, J. Pearman, Derby. (4 entries.)

Six 1-lb. Jars Light Honey.—1, J. Pearman, Derby; 2, Rev. H. R. N. Ellison; 3, S. T. Durose, Burton. (6 entries.)

Six 1-lb. Jars (other than light) Honey.—1, S. T. Durose, Burton; 2, J. Pearman, Derby; 3, Rev. H. R. N. Ellison. (6 entries.)

Six 1-lb. Jars Granulated Honey.—1, S. T. Durose, Burton; 2, J. Pearman, Derby.

FOR MEMBERS NOT HAVING KEPT BEES FOR MORE THAN FIVE YEARS.

Six 1-lb. Jars Light Honey.—1, T. Arnold, Derby; 2, Miss E. E. Knight, Melbourne Park; 3, Miss L. Briddon, Golden Valley, Alfreton; v.h.c., G. W. Godber, Derby.

Six 1-lb. Jars (other than light) Honey.—1, Miss L. Briddon, Alfreton; 2, T. Arnold, Derby.

Six 1-lb. Jars Granulated.—3rd prize, T. Arnold, Derby.

F. M., Derby.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

The Metal Comb in Practice.

[10474] With reference to your editorial in the Journal for June 2, it may interest your readers to know that, as a commercial bee breeder and honey producer, I have given the new Adminson Semicombs a careful trial, starting with swarms. My experience, so far, is eminently satisfactory, and I doubt not will remain so. You draw special attention to the practical notes appearing in the "Bee World." Without denying the excellence of these notes, which I have carefully studied, I think it is a pity that there should be any need at all for the publication of such notes, even to beginners, since, to my mind, they are based on practical common sense, pure and simple.

In view of the nature of the appliance it is obvious that good packing is necessary. So is the restriction in using just the right number of semicombs that are sufficient to be well covered with bees, and to add more later at the ends as the stock develops. Is not this a sensible orthodox rule?

To mix these artificial combs with wax ones truly discourages the bees from giving the cells the final touch before the queens would lay in them, and also encourages the natural fancy of the queen, as pointed out in the current number of the "Bee World." And why should intermixing be at all necessary? In any case, the bees do not leave any cells empty. Supposing one or more semicombs are mixed with wax ones. Cells in which the queen does not lay are readily filled with pollen and honey. Indeed, the bees take full advantage of the appliance for storing honey, and its value in this respect to the commercial honey producers is foremost When not intermixed with wax combs, and used on the usual insulating lines, which do not really present any special trouble, the

brood nest is most impressive and cannot be bettered.

When complaints about the standard of production are being made in one direction or the other it is a real pleasure to find such an appliance, not only so well made as to compare with the best natural comb, but also so well packed in a manner that impresses the recipient. It is my hope to ultimately equip the whole of my apiary with these combs, and feel it my duty to join you in congratulating those responsible for serving British bee-keeping by the production of the semicomb, for I am sure that, by the control of drone breeding, better bees will be created, and by the restrictions in using it better bee-keepers will be trained. — B. C. BERKELEY, Sonning Common, Reading. June 26, 1921.

Re Removing Bees from a Tree.

[10475] Was most interested when I saw Mr. A. C. Fraser had asked about the above subject in your May 12 number, and hoped to have seen an answer in the 19th, as I, too, am puzzled, having had a nice swarm a few days ago which had only pitched a short while in an apple tree, when they suddenly went. First of all they appeared to be going north; I thought I must do the old-world "tanging," but whether it was that which made the bees change their minds I could not say, but before long they were going south. After travelling about 150 yards they came to a long stump of a poplar tree, which I rather think had some bees in it before, and they joined them, not through a big hole, but very small ones and crevices. I fixed a skep in the tree as near to the holes as possible and left it until next day, hoping by chance they might come out, but having no luck I have left them to their own devices, but should be very glad to hear if any of your readers know of a way they could be coaxed out, as it was a nice swarm, which I am sorry to lose.—VIDA HOLE, Riverhurst, West Canal, Bath, May 23.

Excuse P.S., but I have another puzzle. On May 13 I had a nice swarm which I left in the skep. They settled quite happily, but yesterday most of them came out after having made the skep full of wax. Would that be because I looked in five days ago? [No. — EDS.] Those that were left I placed on a hive, also a swarm on the 12th, but put a queen excluder between so that the queen should not go to the top. Was that the right method to follow? [The queen is not clear, so can't say.—EDS.]

Report from Cirencester.

[10476] Though I have been a reader of your "B.B.J." for some years I have not hitherto written to you, feeling that while you have such correspondents as Mr. Kettle and the Rev. Hemming, such notes as I might write would prove uninteresting beside theirs. However, at last I am daring to enter your columns, mainly because I have not yet seen any notes from bee-keepers in this district, and it may be of interest to your readers to know how we have fared here during the last few months.

In the first place I should like to say that during the winter I have superintended about thirty stocks for myself and others in the district, and I am both pleased and proud to say that not one went under. Not one of these was strong in stores, some were decidedly short, but thanks to a liberal supply of flavine candy all are alive and exceptionally strong. Some have already given sections, and I have one D.B. which has a full super of shallow frames. The successful wintering is particularly pleasing as far as this village is concerned, as it is the first time for several years that even a single stock has been kept. Year after year my own bees "went west" through "Isle of Wight" disease, but I am thankful to say that we have at last got the upper hand of it. Of course, I may be wrong, but personally I attribute our present clean bill of health to two causes:—

(1) Spraying with Flavine last season.
(2) To the clearance of all old hives out of the village.

With respect to the latter, I may say an enthusiastic beginner found out all the old hives, offered a price to their respective owners and bought and burned the lot.

During the last week swarms have been very plentiful. I had two on Saturday (May 21st). One of these was out of a very strong lot in a D.B. hive, yet the swarm was not very large, and the bees are still busy in the supers. Another came out immediately after, and this was from an artificial swarm I took early in April, and from which I had cut out all queen cells on two or three occasions since. The strange thing about this swarm was the fact that I had only just captured the preceding one from a plum tree and placed the skep on the ground when swarm No. 2 issued and landed on the cloth under the skep containing swarm No. 1. There was a fine battle for a time and a sad loss of bees. However, I was able to spot queen No. 2 and caged her, then most of the second swarm returned to the hive, leaving, unfortunately, many dead on the cloth.

It is doubtful to me whether you will find this sufficiently interesting to print, but I must say before I conclude how I look forward to your little journal week by week, and I wish it all the success it deserves.—H. E. SLACK, South Cerney, Cirencester. May 23, 1921.

Do Bees Carry Eggs.

[10477] On May 2 I supered a strong stock reserved for queen breeding, with shallow frames, above excluder. On the 9th the queen was removed and another set of shallow frames given below the other, as honey was coming in so fast. Sections were added, for some reason, on the 19th.

On May 25 the upper original rack was removed for extraction, as honey was sealed. *On two combs of this rack there were eight good queen cells*, a ninth open, and three sealed worker cells.

Is not this conclusive proof that the bees carried eggs from specially-placed comb in centre of brood nest, past one rack, into the top one?—BEE-KEEPER.

Dr. Bonney's Method of Queen Introduction.

[10478] With reference to Dr. Bonney's method of queen introduction ("B.B.J.," April 28) and Miss Gordon's letter (No. 10463), I should like a point cleared up.

I am puzzled why Dr. Bonney should say, "Wet both hives with peppermint water." He seems to switch off the subject of queen introduction to uniting two colonies. Perhaps Miss Gordon would be good enough to say whether she used peppermint water.

I should also like to know whether the queen was introduced in her travelling cage, accompanied by her attendant bees?—"SAGA."

[We cannot say why Dr. Bonney advises wetting both hives with peppermint water, unless it is to overcome the distinctive odour of the queen. Possibly Dr. Bonney will explain. We should certainly use the travelling cage and the attendant bees.—EDS.]

Aluminium Semi-Comb.

[10479] It is a matter for suprise that up to the present no reports or criticisms upon the aluminium semi-comb have appeared in the JOURNAL. From the limited tests I have been able to make of them I find them accepted by the bees and queen readily enough, but have not had the opportunity of testing their use with a stock supplied exclusively with them. Nevertheless, there is not the slightest doubt that stocks will breed and store both nectar and pollen in them. As the producer points out, their use should be attended with discretion, and more generous packing allowed than with the all wax variety. I have used the Macdonald combs for some time, and find that the wax extensions to the cells go a long way towards counteracting the radiation of heat, which was supposed to be the greatest objection to their use; it is too early to say anything regarding the wintering qualities of the semi-comb, but as the cells are much shorter than the Macdonald they will receive a much greater insulation of wax, and should be correspondingly warmer.

For use in the super they should be invaluable, and much cheaper than all wax, seeing that they are practically indestructible. I have just received a full complement of brood combs and extracting shallows, and shall be pleased to report on their use later in the season.

GILBERT BARRATT

Palestine "Bees."

[10480] I should like to know if any reader of the "Bee Journal" can tell me the origin of these so-called bees which make wine with so little trouble. The bees are placed in a glass jar of water and fed with a teaspoonful of sugar for 18 days, after which the wine is strained off, flavoured and bottled. This wine is a delicious summer drink and costs practically nothing to make. The bees increase very rapidly, and can be divided up into another jar about every two weeks. Perhaps a reader can give me further details of these little creatures.—L. K. BOND. "Queenscliffe," Ipswich.

[We shall be pleased if anyone can tell the origin of these "bees"—which are not bees at all, but a ferment, which goes under various names, *e.g.*, "Palestine bees," "Californian bees," "Balm of Gilead," "Ginger-beer plant," etc. So far as we know the origin is unknown. It looks like breadcrumbs or tapioca, and is composed of a yeast (*Saccharomyces pyroformi*) and a bacterium (*Bacterium vermiforme*), and the products of the fermentation are chiefly carbon dioxide, alcohol and acetic acid, according to "Conquest" for November, 1920. Some say the "wine" is pleasant and refreshing; others say the opposite, and we believe it is intoxicating. After drinking a quantity try and say the scientific names given above quickly half-a-dozen times, which will probably be a fair test on ths point.—EDS.]

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d. up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

July 20, at Alexandra Recreation Ground, Surbiton.—Surrey B.K.A. Show. Twenty Classes. Two Challenge Trophies, ten Silver, and 15 Bronze Medals. Eight Open Classes.—For Schednles apnly Hon. Sec., W. E. Hamlin, 43, Norbury Court Road, Norbury, S.W.16.

July 21, at Bath.—Somerset Bee-keepers' Association's Show in connection with the Larkhall Horticultnral Society's Show. Several Open Classes.—Schednles apply Mrs. Wallace, 151, Newbridge Hill Bath. **Entries close July 16.**

July 20 and 21, 1921, at Cardiff.—Cardiff and County Horticultural Society's Show, Sophia Gardens, Cardiff. Bee section under the auspices of the Glamorgan Bee-keepers' Association. Open Classes.—Schedules to be obtained from the Hon. Secretary, Chas. F. Davies, 5, Borstal Avenue, Cardiff.

Saturday, July 23, 1921.—Wyke and Normandy and District Horticultural and Agricultural Show. Honey (Open):—Class 71: Section Honey, best three sections, 5s., 3s., 2s. Class 72: Run Honey, three 1-lb. glass jars, light, 5s., 3s., 2s. Class 73: Run Honey, three 1-lb. glass jars, dark, 5s., 3s., 2s. Entrance 6d.—H. L. Mumford, Hon. Sec., Heatherside, Normandy, near Guildford. **Entries close July 16, 1921.**

Wednesday, July 27.—In connection with the Wallop Horticultural Society. District Classes of 12 miles radius. Open Classes for single jar and section.—Schedules obtained from P. E. Roberts, School House, Nether Wallop, Hants. Entries close July 23.

Saturday, July 30, and Monday, August 1, 1921, at Lichfield.—Lichfield Floral and Horticultural Society's Show. Bee and Honey Section under the auspices of the Staffs Bee-keepers' Association. All classes open.—Schednles may be obtained from the Hon. Secretary, A. H. Perrins, 30, Tamworth Street, Lichfield, Staffs.

August Bank Holiday.—Revival of Cambridge Mammoth Show. Bee and Honey Section in charge of Cambs. and District Bee-keepers' Association.—Schedules from E. C. R. Holloway, Burwell, near Cambridge.

August 2 and 3, Abington Park, Northampton.—Northants. Bee-keepers' Association, in connection with the Municipal Horticultural Society's Flower Show. Open Class. Special prizes. 1 lb. jar of honey, 1st 20s., 2nd 12s. 6d.,

3rd 7s. 6d.—Schedules from Mr. B. F. Swann, 41, St. Michael's Mount, Northampton. **Entries close July 25.**

August 4, at Madresfield, Malvern.—Annual Show of the Worcestershire B.K.A. Four Open Classes. Gift Class, no entry fee, one 1-lb. bottle, prize 21s.—Schedules from G. Richings, 42, Barbourne Road, Worcester. **Entries close July 30.**

August 10, at Wye.—Kent Honey Show. Thirty classes, half of which are open to U.K. Four Silver Cups and 75 other prizes. Schedules, Mr. A. Lepper, Wye. **Entries close August 1.**

August 20, 1921, at Ammanford.—Carmarthenshire B.K.A., in connection with Ammanford and District Horticultural Show. Silver and Bronze Medals for Members' Classes. Open Classes for Honey, Wax, etc. Good prizes.—Schedules from W. Comery, 15, New Road, Ammanford. **Entries close August 17.**

August 27, at Hinckley.—In connection with the Hinckley Sweet Pea and Rose Society's Annual Show. Open to all bee-keepers. 1st prize, 12s. 6d.; 2nd, 7s. 6d.; 3rd, 4s.—Schedule from A. Kimbrell, Clarendon Road, Hinckley.

September 17 to 23.—British Bee-keepers' Association Annual Show at Grocers' Exhibition, Royal Agricultural Hall, Islington, London. Entries close September 5. Schedules from Hon. Sec., B.B.K.A., 23, Bedford Street, Strand, London, W.C.2. **Entries close September 5.**

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PRIVATE ADVERTISEMENTS.

BROTHER BEE-KEEPERS.—Country Apartments, board and residence; trout fishing.—HORSLEY, Greeba Mills, near St. John's, I.O.M. r.r.12

GLASS SQUARES for glazing sections, 4s. 6d 100; Glass Quilts, 16-in. square, divided, with feed hole, 3s. 9d. each; packed free.—SMITH, 117, Gt. Hampton Street, Birmingham. r.q.115

PURE HOME-RAISED 1921 Italian Queens. 7s. 6d.; surplus Stocks; Geared Extractor.—HOLLINGSWORTH, Heanor. r.54

"CONQUEROR" HIVE, containing brood chamber for commercial frames and four shallow frame (standard) crates, no disease, £3; 20 drawn-out standard Shallow Frames, 1s. 6d. each.—C. JONES, Westdean, Peaks Hill, Purley. r.55

TROPHY STAND wanted for exhibits; not expensive. Particulars and price, "Beeches," 32, Gladstone Road, South Yardley. r.58

95 SECTIONS, 5 in. x 4 in. x 1⅞ in., no bee-way, three side split and foundation for same, 23s. 6d., post free.—FRASER, 15, Manse Road, Markinch. r.43

FOR SALE, Honey Extractor, size 27 in. x 19 in., direct drive, two frame holders, draw off tap, well made in strong bright tin, a bargain, 30s., f.o.r.—GORDON KING, 41, North Parade, Horsham. r.57

WANTED, two dozen Section Racks, also large size Honey Press. State price.—BOOBIER, Holford, Somerset. r.59

FIRST GRADE Light English Honey, £8 per cwt.; tins to be sent; sample 6d.—HOWLETT, "Sylvabelle," Tring. r.r.41

10-FRAME STOCK HYBRIDS, headed with Jan Stragers imported Carniolan Alpine Queen, £4 10s.—B. WOODLEY, Thorne, near Doncaster. r.42

FOR SALE, Meadows' Honey Press, used one season, 40s.; also Taylor's No. 71 Extractor, 30s., f.o.r.—WILLIAM FAKE, Harpley, King's Lynn. r.44

WANTED, immediately, three 1921 pure British Queens. State price.—Apply, DR. J. HOLLICK, The Surgery, Dorridge, Birmingham. r.45

BOXES FOR MAKING HIVES. — Inside measurements, 20½ in. long, 17 in. wide, 12 in. deep, dovetailed and nailed corners, all ⅝ tongued and grooved boards; five boxes sufficient for two hives; all complete with lids; put on rail for 1s. 6d. each, or £6 10s. per 100.—MITCHELL, "Elderslie," Branksome Avenue, Stanford-le-Hope, Essex. r.r.47

SEVERAL 10-FRAME STOCKS, guaranteed healthy Hybrids, headed with 1921 Penna selected Italian Queens, £3 10s. per stock.—GIBSON, Bridge Foot, Radwinter, S. Walden, Essex. r.48

FOR SALE, strong Stocks on 9 frames, this year's Queens, £3; travelling boxes to be returned.—MISS GORDON, Wethersfield, Braintree, Essex. r.49

HYBRID STOCK, 8 frames, strong, no disease, £2 15s.—SEYMOUR, Bailey Farm, Blackwater, Hants. r.50

DOUBLE CONQUEROR HIVE by Simmins, complete with crates of shallow combs, £8; crates of wired Shallow Combs, excellent condition, healthy, 12s. 6d. each; three or more carriage paid; approval willingly.—E. W. D. MADOC, Mattishall, Dereham. r.52

8-FRAME STOCK of prolific Italian Bees, young Queens, new white painted Hive; this week only, £4 15s., complete.—COX, 116, Addison Road, Kings Heath, Birmingham. r.53

HEALTHY BEES.—Stock on 10 frames, £5; large Swarm in skep, £2 10s.—SCOTT, 74, Woodside Park Road, North Finchley. r.73

TO CLEAR.—Selected disease-resisting Italians, 3 frames, 33s.; 4 frames, 38s.; spare fertile Queens, 9s. 6d.; box 10s., returnable. Few Virgins, Simmins' direct, 7s. Milking Goat, 65s.; two Nanny Goatlings, 27s. 6d. Satisfaction guaranteed.—FROST, Sandyford, Stone, Staffs. r.76

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STOCK OF BEES, W.B.C. Hive, Shallow Frame, super partly drawn out, Excluder. Owner giving up bee-keeping. What offers?—149, Friern Road, East Dulwich, S.E.22. r.79

THREE STOCKS of Italian Bees on 10 combs, 1921 Queens, £4 15s., carriage paid; on safe return of box 10s. refunded.—DOBSON, Hunton Bridge, Herts. r.4

8-FRAME STOCK FREE.—Italian Hybrids, strong and healthy, £4 5s., carriage paid; box 7s. 6d., returnable. Owing to successful season I am overstocked, and to make a speedy clearance I will return cash, less cost of carriage, to first order with remittance. Name and address of successful applicant will be advertised in B.B.J., July 28.—TUNMER, Chalfonts, Leiston. r.81

300 LBS. pure English Run Honey for sale, heather mixture, in 56-lb. tins, at 1s. 6d. per lb.—E. R. DEBENHAM, Bladen Apiaries, Briantspuddle, Dorset. r.r.82

OBSERVATORY HIVE (5-frame preferred).—Prices and particulars to LEWIS PELL, John Street, Hinckley. r.84

SURPLUS STOCK healthy Bees for Sale.—JEWITT, Hensall, Whitley Bridge, Yorks. r.r.11

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"LAZENBEE" 5-FRAME NUCLEI, 30s.—YOUNG.

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SUMMER AND AUTUMN RE-QUEENING.—Now is investment time for next season. False economy does *not* pay. There is but one queen heading a colony, and you can only afford to have the best: *Adminson's Selected Tested Carniolan*, 17s. 6d.; prompt and safe delivery guaranteed. r.34

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MAY SWARM, 28th, now strong, 4-frame Nuclei, each containing brood, price £2; carriage extra.—E. FRESHWATER, 116, Hampton Road, Twickenham, Middlesex. r.q.137

IMMEDIATE DELIVERY.—Stocks and Nuclei, Italian Hybrids, disease-resisting and practically non-swarming strain; 4-bar Nuclei, 50s.; 8- and 10-bar Stocks, £4 5s. and £5; frames covered with bees and brood; case 10s. (returnable).—STARKEY, 55, Stafford Road, Brighton. r.q.140

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The Premier Race for Comb Honey. The most gentle Bees in the World.

¶ Endowed with extreme gentleness, remarkable prolificness (which is nevertheless free from erratic swarming), and with charming beauty, Carniolans strongly appeal to almost all sections of bee-keepers. For re-stocking apiaries, for bee-keepers in crowded districts where keeping gentle bees is *essential*, for the beginner who needs comfort and encouragement, and for the commercial breeder and honey producer who require virile blood, Carniolans cannot be bettered. It is a fact that a well-known Italian strain of bees which has been sold under a trade name for many years is infused with Carniolan blood. You can produce similar bees for yourself at a trivial cost.

¶ The stamina of the Queen and her prolificness are the chief factors in fighting *Acarine disease*. (See Dr. Rennie's article in THE BEE WORLD for July, 1921.) We *guarantee* to you such a high quality QUEEN that will render the most gratifying service for at least two years—the fullest possible value for your money. Batches of QUEENS received almost daily from Carniola for *immediate delivery*.

ADMINSON LTD., Benson, Oxon.

PURE ITALIAN QUEENS, fertile, bred in Devonshire, no blacks within miles, June to August, 10s.; September, 8s.; Virgins, 4s. each; Nuclei, 3-frame 50s., 4-frame 63s., carriage paid. Send cash with order for Queens, or 10s. deposit for Nuclei. Several 8- or 10-frame Stocks, just right for heather, 80s. and 90s., c.p. 100 miles.—TATTERSALL WILLIAMS, The Apiary, Braunton.

FAKENHAM pure Italian Queens are all select Queens; prompt delivery, July-August, 8s. 6d. each.—ATKINSON, Fakenham. r.q.159

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IMMEDIATE DELIVERY.—4-frame Nuclei, 50s., 6-frame Stocks, 70s.; box 10s., returnable.—LEE, The Beeman, Burgess Hill, Sussex. r.q.126

HEALTHY ITALIAN HYBRIDS, gentle, great honey-getters; Stocks, Nuclei, moderate.—SMITH, 5, Florence Terrace, East Cliff, Ramsgate. r.q.123

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Fertile Italian Queens. 8/6. Delivery by return. PEARSON & GALE, Marlborough

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EXCEPTIONAL OFFER.—*Adminson's Breeder Hive*, fitted with ten standard aluminium semi-combs, costs £4 2s., carriage forward. Worth double this price.—For Adminson's Hives and Appliances write to JAMES LEE & SON, LTD., Uxbridge. r.n.23

1921 PURE CARNIOLAN QUEENS.—Whether home-bred or imported, our Carniolan Queens are derived from Jan Strgar's famous Alpine strain, for which we have the *Sole Agency* in the United Kingdom. Price (from June onwards), 17s. 6d. per Queen; safe delivery guaranteed. A decidedly modest outlay on an investment which more than repays.—ADMINSON, LTD., Benson, Oxon. r.n.54

DUTCH BEES.

¶ To keep bees profitably, when bee diseases are still rampant, is a problem which for long remained unsolved until the introduction of Dutch bees on an extensive scale in this country, and the increase of knowledge regarding their proper management. To any reader of the JOURNAL I shall be pleased to forward interesting literature and price list on application.

¶ Characteristics: Dutch bees are credited by all impartial critics with splendid prolificness, eminent suitability for comb honey production, and fitness for use with large hives; and, above all, their remarkable resistance to *Acarine disease*, as confirmed by recent research (see Dr. Rennie's Report, pp. 747-751).

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(2) Ten-comb stock in "Cumbernauld" hive, with excluder and crate of sections, £6 10s., carriage *forward*. *Immediate delivery.*

¶ References: "Those who fancy this variety cannot get them from a better source than 'Orme Lodge Apiary,' Mr. Whyte is Agent for the best known and largest bee-keeper in Holland, Hans Matthes."—The B.B.J., March 10, 1921.

"The championship of the Dutch bee, for which Mr. Whyte is known, receives an illuminating tribute in his catalogue, which is a literary and practical treatise on this hardy race of bees."—The *Bee World*, April, 1921.

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Effect of Legislation in Other Countries.

We are often told by opponents of legislation for bee diseases that such legislation has been a failure in those countries where it has been tried, and that disease has increased. We have before pointed out if that was the case it would be only reasonable to expect the bee-keepers to be clamouring for the repeal of the Acts and the abolition of apiary inspectors. We shall be very pleased if any reader can give us particulars of any country where the bee-keepers are asking for the repeal of an Apiaries Act, or even for a reduction in the powers it confers. As a matter of fact, the only objections raised are either that the Acts are not strong enough or they are administered in too lax a manner, and wider powers, or a more stringent application of existing laws, are being asked for. The inspectors are not of the "big stick" variety, but men who will do their best to help and instruct the bee-keeper. In our issue of June 30 we showed the good results from legislation in Switzerland. In an article on "Bee-keeping in Canada" in the B.B.J. for May 26 Mr. F. W. L. Sladen says: "Most of the provinces have foul brood laws, under which inspectors are appointed. Much good has resulted, and more is expected, from the education of bee-keepers by the inspectors, who demonstrate better methods of bee-keeping." The fear of what inspectors—if appointed—might do is generally at the bottom of the opposition to legislation for bee diseases of all but a very few of the *bona-fide* opponents. Those who have an axe to grind, personal animus to indulge in, or are opposing legislation entirely in self-interest, take full advantage of this fear, and do all in their power to foster and keep it alive by the most grotesque misrepresentations and exaggerations.

Our readers will be aware that there are Apiaries Acts in both New Zealand and some of the Australian States. Some correspondence on the work of inspectors has been published in the *Australasian Bee-keeper* and the *New Zealand Bee Journal*.

In the former paper for March, 1921 Mr. W. E. Stiff says he made an effort to stamp out foul brood in the southern corner of New South Wales, but was not successful. This, in the opinion of Mr. R. J. Woodcroft, who is probably the biggest bee-keeper in the district, was due, to a great extent, to Mr. Stiff being hampered by not having sufficient freedom to use his own discretion. Mr. F. Davies, another apiary inspector, who succeeded Mr. Stiff, says: "In the discharge of my duties I instructed bee-keepers how to combat the disease. In many cases notices were served on bee-keepers to disinfect their hives.

"On returning to this territory last October I found very little progress had been made in eradicating the disease. Some bee-keepers endeavoured to treat their hives simply by placing the hive parts under hot water, hardly hot enough to sever the wax cells from the frames. The material which accumulated on the inner side of the bottom part of the frames was not removed, and bee-keepers were surprised to learn that their bees were still infected with disease. In view of this state of affairs, I wrote to the Department of Agriculture for permission to instruct the bee-keepers in the proper manner to disinfect the hives. Permission being granted, I commenced operations by treating one hive in each apiary by immersing in boiling water and caustic soda the hive parts which had been in contact with the disease; this being the treatment prescribed by the regulations under the Apiaries Act. I assisted in disinfecting about 100 apiaries in this manner. I also impressed upon every bee-keeper that disinfection of the hives must be carried out properly or the hives destroyed by burning, otherwise the Department would prosecute the bee-keepers.

"Under instructions, I recently re-inspected the apiaries in some of those districts, and found only four apiaries slightly infected with disease out of about fifty. . . . . From the experience I have gained as a bee-keeper for many years, and also as an inspector in New South Wales, I have no hesitation in stating that foul brood can be stamped out in the southern portion of this State as it has already been eradicated in other parts of New South Wales. . . . Assistance in eradicating the disease could also be given by an amendment of the Apiaries Act by prohibiting the straining of honey from bush nests other than in a bee-proof room, and the refuse resulting therefrom being burnt."

It will be seen from the above quotation that the conditions prevailing "down under" are very much the same as those obtaining here, and that legislation is doing good. We have no space to refer now to articles in the New Zealand *Bee-keepers' Journal*, but will do so in a future issue.

A Dorset Yarn.

As one notices the bees that are kept in Dorset it is easy to see which of them are making money with the honey produced. The hives tell you which are profitable to the owner. When yarning at a garden party near Blandford I heard of a lady who had bought a stock for £5. It had swarmed four times; results, nil. Another bee-keeper had a bloater box of sections put on top of the bars. This box only had two rows of six sections; the other part of the top was not even covered up to conserve heat. The owner said he could not understand why the bees did not work the sections. They were building on top of bars by the side of the box of sections.

Another bee-keeper has his hives tiered up till the owner had to get a box to take the roof off (these are for extracting). He sent me a pressing invitation to see them; each lot that was added to the stock were all drawn-out combs—three boxes of standard bars, four lots of shallows. This bee-keeper thinks it a poor stock if it does not do over 200lb. of honey. The bees start on them at once, the great heat of the hive immediately softening the broken cells; they are quickly repaired, and honey is deposited in them right away. The owner is justly proud of such hives as he shows you each rack filled up with honey and the double brood box with so much brood; it is the weight of honey sold that shows the practical bee-keeper. Many think that they are doing well with one or two racks of sections in the season, while others look on five and six as a paying number. Another bee-keeper has a brood nest of fifteen combs, an excluder to keep down the queen, with three lots of standard combs on top, two of which are full. These are practical men; they allow no queen cells till after the second week in July, when the honey flow is over; after that, if the bees like to supersede the queen, they are allowed to do so. They do not usually swarm after that with so much surplus space.

One is always learning how "to do or not to do." One cannot help thinking Pope's dictum as true—"A little learning is a dangerous thing"; one need not add the rest about "drinking deep." It broadens one's mind to see how each bee-keeper gets his goods; how some stocks will store a new rack of combs with all honey when placed below the brood nest, and the next stock filling it with brood and pollen, with only a moiety of honey. The workers rule it shall be so, and it is so. Have seen the queen when looking for queen cells on the combs, and the workers at once push her down with weight of numbers; they considered it was too risky for her to be up above the bars.

Bees, I find, fill the 2lb. sections as quickly as the 1lb. ones; they sometimes put in a bit of pollen, even if an excluder is over brood nest; but the standard combs over excluder have been free of pollen, even where three lots are on top of brood nest. Bees take to the 2lb. sections that have brood foundation in them more quickly than those with the thin super that we use for the 1lb. We have several lots of 2lb. sections on top of ten combs without excluder. The queen has not been in either of them up to the present. Some of my readers may think this a stroke of luck, but it is a fact; have had the queen up in sections where there was no excluder—that was my fault. It is usually May and June when she does this. We find that she has a preference for new combs in June if they are placed above the brood chamber (without excluder), and the workers will store the honey below among the pollen and brood. She will lay in all the centre combs regularly, and the larvæ are fed and capped over nearly at one time. This shows it is better to have some new comb for her to go on laying; it is only then that she can lay her full complement in a day.

I saw Squire Tomlinson take out from his "skyscraper" hives a comb from each with this capped brood—a good brown colour, with the young bees eating their way out. He did this to stop their mad gambol of swarming, and he gave these to weak stocks to "ginger them up."

Among the visitors to the farm was a member of the B.B.K.A. Council, Mr. E. G. Waldock, of the Surrey Bee-keepers' Association. A great many come south for their holidays. Another visitor, from the Evesham area, told us of scarce crops of plums, though bees were with the flowers all the time of blossom; he thought the frosts destroyed the stigmas of the blossoms. In Dorset it is drought that is fast drying off the flowers; the sweet chestnut and brambles seem to have the most of our bees this week (ending July 9).

—J. J. KETTLE.

Jottings from Huntingdonshire

The drought still has us in its grip. We perspire, we quench our thirst, and pray for rain, and it comes not yet. The distant rumble of thunder this morning made one's hopes rise, but the storm came not near. Fearing the bees were drinking too much stagnant water, I placed an earthenware vessel with two quarts of water within easy reach. A few bees only settled on the corks placed in the water to slake their thirst. The majority still prefer the old fishponds, but what if they dry up! The honey flow, of course, is not good, and what does come is strangely mixed. While the fields of flax were in flower thither went the bees, but flax blooms are soon over, so the honey is not too heavily drugged. The red clover and rest-harrow were then visited, after a while, in addition, the brambles and the mustard. Still another source, the persultation of the trees—this is dark but quite good, and far preferable to honey dew, which, so far, has not found its way to any of my hives, except in quite small quantities.

It is too early yet to despair. A 2-in. fall of rain would do wonders to vegetation. Many flowers have yet to open, and hereabouts there is always a sure flow from the charlock, which springs up on the fallowed land. This weed is quite harmless on such land if it is kept from seeding. In this part farmers wait till it has reached flowering stage, and then turn in some old ewes, and farmers, sheep, and bees are satisfied.

Owing to the coal strike, steam ploughing has been held back; now the work is well forward, so in a month's time there should be some 70 acres of charlock within a mile of the hives, so I am hoping to get some surplus from this source. Have ordered a honey squeezer, as extracting charlock honey in the autumn is less possible than extracting heather honey, and it is a debatable point which is the more delectable—honey from heather or autumn charlock

Judging by the honey shows to come, bee-keeping is well holding its own, and it is encouraging to read of new bee-keeping associations being formed, or old ones revived We shall be independent of foreign honey yet. Speaking of shows—What constitutes an "open class"? In my ignorance I have looked upon "open classes" as open to all England, but, judging by schedules received, this is not always so. It appears that "open classes" are classes open to non-members of the county bee-keepers' association, who, however, must reside in the county in which the show is held I would suggest that when bee shows are advertised this point should be made clear, or that the editors of the BRITISH BEE JOURNAL should make a rule to the effect that the words "open classes" will be understood to mean open to the British Isles unless otherwise stated. It is, to say the least, annoying to write and ask particulars of open classes, and receive the reply that exhibitors in these classes must reside in, or their apiaries must be within, the borders of this or that county. I have heard of an association which invites entries from any part of the country, providing the exhibitors belong to (1) their local bee-keepers' association, or (2) the British Bee-keepers' Association. There is fraternal feeling here, and just the feeling which needs encouraging, and I am heart and soul with Col. Kettlewell in his desire to see bee-keepers banded together in one great brotherhood. Some, of course, would not agree to this, but the majority would. Why then not join the British Bee-keepers' Association, or a society affiliated with it, and the Apis Club, helping bee-keeping and research work at one and the same time.—E. F. HEMMING, Steeple Gidding.

[Our interpretation of the phrase "open classes" is the same as Rev. E. F. Hemming's, that they are open to any bee-keeper in the country. Classes that are closed to all but the residents in *one* county cannot by any stretch of imagination be termed "open classes." Secretaries of shows will please note.—EDS.]

Bees for Ex-Service Men.

We have an offer of two lots of bees free for ex-Service men. Apply, Editor, B.B.J.

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of June, 1921, was £4,662.—From a return furnished by the Statistical Office, H.M Customs.

Notes from Nature, Seen on a Christmas Ramble.

(*Continued from page* 308.)

I always encourage anyone to start bees where I see a good place like that, where they can keep them without their being a nuisance to anyone else, for I think bees like a sheltered spot; to see them buffeted about with the wind trying to make the hive in a bleak spot is much like cruelty to animals to my mind. So wishing them success, I leave them and make for the railway to entrain back to Worksop. Tuesday morning, I find there is not a very good connection to get back home before 2, so I try to while away an hour or two in the town: but bricks and mortar have no attractions for a lover of bees and nature, so I strike the Ollerton road and am soon in the heart of Sherwood Forest again. As I go up Sparken Hill, what gigantic trees there are, with the roots down yards through the fissures of that sand rock! What ages they must have been growing to get to that size, and the years the ivy must have been in growing up them till it is as thick as a man's thigh! What a freak of nature it has attained in one place, where it has climbed a 30- or 40-ft. giant, covered most of the branches, then hangs down in a matted tangle over the roadway in the shape of a harp 6 or 8 feet long, with the leading string growing down to within 10 feet of the ground again!

Here is where the sweet chestnut grows to perfection, scores of them from two to three feet diameter: the bees must have a fine time up there: no small boy will bother them, like they do on the blackberry flowers around Clay Cross. And what lime trees, too! It must be a grand bee country around there. Farther on are passed the fine entrance gates to Welbeck Abbey, where I must try and have another ramble at some future time. The morning was very misty after a wet night, so I could not see far, but I passed a garden full of roses: and just fancy, roses a few days after Christmas! But, then, it must be warm about there, all in among those big trees. If trees growing for 50 years will make barren soil rich, then there must be some rich soil around there. I pass a few more lodge gates and then come to the little hamlet of Carberton, where flows the little River Poulter. What clear water. As I look over the bridge wall a pike seems to be amusing itself in the water by the way it was gambolling about: a good place in this hamlet for bees, but I fail to locate a hive anywhere, while farther on there seems hundreds of acres of land growing nothing but bracken and rough grass. I cannot think the sand is that barren but that it would grow something better. Turning to my right at a cross road (the pretty little village of Budby is on my left), I cross more open country interspersed with thorn bushes and heather: It makes one think of Robin Hood and his merry men of Sherwood, when they used to hunt the king's deer in those parts. Houses are a great way apart here. I come to a large field of clover for next year, must be creeping to 50 acres in extent. As the mists have cleared somewhat, can begin to

see better. Then I come to the last lodge gates on the Welbeck property, just by another great clover field. Now, here is a house; not another within a mile, with hundreds of acres of clover on the door step, as one may say, enough to make any human covet the position in the summer. But how lonely these long winter nights! I pass Gleadthorpe Farm about a mile farther on. It is all "blowaway" sand here in dry weather, but not to-day. What fields! Not many under 50 acres. It seems a very large farm, several large clover fields on it, three or four cottages; but I saw no bees there. Two miles farther on is Warsop, where I saw several hives about, the first I had seen for another nine or ten miles. Not wanting to push my bicycle over the Shirebrook Hills, I make for the station and train it through the Bolsover Tunnel to Duckmanton: here I strike the grassy uplands of Derbyshire, and where the big thorn hedges and large sycamore trees are everywhere in profusion; on past Sutton Scarsdale, where I pass one solitary beehive in a garden, exposed to all the winds that can blow from Ashover, by the site (now pulled down) of the once busy flour mill at Heath. I am once more "Holmewood" bound, when it comes on a sudden shower, and me between two towns, as they say! Another half-hour's ride through Wingfield brings me home, and ends one of the nicest rambles I ever had out on a cycle, giving me the knowledge that there are vast expanses of the country well suited to bee-keeping, where it seems very few bees are kept.—TOM SLEIGHT, Clay Cross. January 8, 1921.

When the Red Clover "Honeys."

In the German paper *Bienenzucht* is quoted a letter from a bee-master in Brunswick concerning the "honeying" of the red clover. The writer says that this occurred in his neighbourhood last year, and he also noticed it in 1878, 1886 and 1894. Concerning the occurrence of 1878 Herr Riechelmann writes: "My bees had become very quiet. Then I noticed one morning early that they were flying very actively. At eight o'clock I followed their flight, and found them in a great clover field, three or four bees on one bloom; it was the second cut. The whole field reeked of honey. The sun shone through a thick veil. When, towards midday, the sun broke through, the flight was over. But the amount gathered by 150 stocks in this half-day passes comprehension. Never have I seen in so few hours such a gathering; every empty cell in the hive was filled. If you turned up a skep the honey ran out of the flight-hole." The editor notes the peculiar circumstances that brought this happy phenomenon—a moist, warm, overcast night and early morning, which he says are the same circumstances that are needed by the buckwheat. It will be remembered that last year the white clover harvest was completely lost because our nights were too cold.—G. G. DESMOND.

Rheumatism and Bee Stings.

When the writer began bee-keeping some of the bee journals were filled with accounts of the wonderful cures of rheumatism by the use of the poison of the bee sting. Having a medical education, and knowing how the superstition originated, I objected to the reports, as not being reliable, and in a short time that class of articles were practically abandoned.

The founder of homœopathy, Dr. Hanneman, formulated the statement that any medicine which would cause the symptoms a disease did would "cure" the disease. The sting of a bee caused a swelling that resembled that caused by rheumatism, therefore the poison of the bee sting would cure that disease. There was nothing known in Hanneman's day of germs as a cause of disease, and the practice of medicine was pure empiricism. Those were the days of bleeding, leeches, plasters and liniments, purges and emetics. Hanneman taught that medicine must be given in this way. He took the juices of plants and called them "Mother Liquors." To make his first potency he took one drop of Mother Liquor, of unknown alkalidal strength, and put it into one hundred drops of alcohol, which then was called the "Elixir of Life," and mixed it with *one* downward shake of the hand. To make the second potency, which was stronger than the first, he took one drop of the first potency and added it to one hundred drops of alcohol, and to make the third repeated the formula, taking one drop of the second potency to make the third, with, of course, the one hundred drops of alcohol. Just amuse yourself: figure out how much of the original drop of Mother Liquor he had in the third solution, which was as strong as he dared use. This was mixed with three downward shakes of the hand. He had one-one hundredths of a drop in the second solution, and 1/10,000 of a drop in the third, and if the first and second solutions were all used, with one hundred drops of alcohol to each drop of the first and second solutions, he would have 10,000 drops of number two, while for the third he would have one million drops, which means 228 ounces, or approximately one and a half gallons, in which, mind you, there was *one drop* of Mother Liquor of unknown strength. Then to administer this deadly mixture he took one teaspoonful, put it into a glass of water, and of the final mixture gave a teaspoonful more or less frequently.

Not many years ago the Root people, of Medina, Ohio, supplied homœopaths with bee-sting poison, which, I have been told, they secured by causing the bees to sting a piece of sponge. This was used by the homœopaths, but it will not cure rheumatism, or anything else, unless it be laziness. The writer works among his bees with sleeves rolled to the shoulders, and is stung one to a hundred times a day three months in the year, but it is not unusual for him to have twinges of rheumatism in the lumbar region or muscles, and many bee-keepers have told me they had the same experience.

Rheumatism is due to "mixed infection," the accumulation of poison in the blood, or system, due to bad teeth, tonsils, or from disease of some organ. This poison settles in a particular part and causes pain, and in the joints, where the tissues are of low vitality, the swelling and fever are sometimes dreadful, and the pain intense. A majority of all cases of rheumatism are self limited; they will abate without treatment, and these are what are "cured" by the nostrums sold by druggists (chemists). There is not a substance on the earth, in the earth, or in the waters under the earth but what have been used in the treatment of rheumatism, and all are equally efficacious.—A. F. BONNEY, Brier Grove, Iowa, U.S.A.

Questions, &c, for Bee-Keepers for Self-Examination.

(Students are recommended to write their answers, and check them afterwards by reference to books.)

537. What cells in a comb are used a second time, and what cells are not so used?

538. What can be done to check or prevent swarming?

539. Show by a calculation how many eggs per day a queen must lay to keep all the cells in ten standard combs occupied with brood or eggs. (Assume comb to consist of worker cells.)

540. What is the average depth of a worker cell and of a drone cell?

541. Describe the food given to the larvæ of the bee, showing what difference there is in it when given to larvæ in queen cells, in worker cells, and in drone cells.

542. In what circumstances may eggs be found in a hive in winter?

543. How do bees collect propolis and convey it to the hive?

544. What differences in practice are advisable in working an out-apiary as compared with a home-apiary?

J. L. B

Heap v. The Essex Bee-Keepers' Association.

This was an action brought against the Chairman and Secretary of the above Association by its late expert, Mr. C. H. Heap, of Reading.

The case was tried at the City of London Court on July 12, before Judge Atherley-Jones. The complainant conducted his own case, and the Association was defended by Mr. Fortune, instructed by Messrs. Edwards & Son, of East Ham.

In 1913 the complainant entered into an agreement with the Association to carry out the duties of expert and collector, at a salary of £15, plus 1s. per visit, 5 per cent. of all cash collected, and 25 per cent. of any new subscriptions introduced. The agreement contained an arbitration clause that, in case of any dispute between the parties thereto, the matter should be referred to the Council of the B.B.K.A., whose decision should be final, and should be made a rule of Court.

This agreement was renewed in 1914, but in 1915, owing to the serious loss of subscribers through the heavy loss of stocks, the salary was reduced to £10, the other clauses remaining the same. The expert, to save himself unnecessary work, sent reply-paid postcards to subscribers, intimating that unless he heard at once that they wished him to call, he should not do so. He received only 55 replies, many members considering that, having paid their subscriptions, he was in duty bound to call on them. He completed his tour in six working days, and collected a total sum of £5 8s. On sending in his report and accounts, the Committee refused to pay unless he called on the remaining members. This he declined to do, neither would he submit the matter to arbitration as per agreement.

The action was brought to recover a balance of £9 7s. 11d., alleged to be due for services rendered. Counsel for defendant maintained that as the contract had not been completed complainant was entitled to nothing, but his Lordship held that some work had been done, though certainly not what was due from him. He therefore granted him £2 15s., being 1s. per visit; 10 per cent. commission on £5 8s. collected, 10s. 6d.; 25 per cent. of new subscriptions collected (7s. 6d.), 1s. 10d.; 120 reply postcards printed, 18s.; rail fares, 10s. 4d.; being a total of £4 15s. 2d., and as he had already had £5 8s., his Lordship decided he had been sufficiently recompensed. Judgment was therefore for defendants, with costs.

Manchester and District Bee-Keepers' Association.

There was a visit of the sub-committee of the Manchester and District Bee-keepers' Association to the Carrington Nurseries, to look through the apiary which the Manchester Corporation has there to give to the company of disabled soldiers of the Ministry of Agriculture and Fisheries Department an insight into bee-keeping when the men are on their own again. (A second contingent are now having a twelve months' training in agriculture, horticulture, with their incidental duties and requirements), under conditions ideal to the bee-keeper. A lecture was given by the secretary, whose first word was how to handle bees; he told them what kind of wild bees, solitary and social, they might come across on farms or in the woods when they came to work on the land.

He spoke on the different races of hive bees which they might introduce into their apiaries; what might happen if they got mixed breeds, or hybrids: sometimes a good breed would be found, sometimes a mongrel, a wastrel, a useless strain and a pest to the apiary. The economy of the hive was described. The queen, having her own function, and no other duties or worries, i.e., laying eggs, two sorts by the way, male and female, known as drone and worker. The great army of workers, un-

developed females, who take upon themselves all the domestic duties of the home.

The drone and his duties, his relationship to the babies in the hive.

A bee was sketched on the blackboard; the difference between a bee and a fly was explained by the difference in the wings. The two pairs of wings of a bee, the way it could hook them together to fly, the action of the wings on the air tubes, the beats opening and closing valves, pumping air into the air sacs, giving bouyancy to the bee.

In the abdomen was pointed out the honey sac, and its function elucidated. The wax scales were also described, how cells of hexagonal shape with thin walls parallel to each other were formed. Another half-hour was given to question and answer.

Mr. Coulthurst had several objects of interest which brought instruction to the hearers; he had a piece of newly-made honeycomb, which was first explained, then examined and eventually sampled; he had a few queen cells, which were shown and commented on, one had the cap eaten through by a young princess, who thus presented herself in her pristine beauty, then she majestically walked about on his hand while under their inspection. Later a demonstration how to manipulate the bees at the hive was given, the men were shown how to handle, they themselves taking part in the operations.

The questions asked showed that some of the men were interested in the craft, and would start when they got to their own homes, they were advised to begin in a small way and let the apiary develop. The honey flow was at high tide, a clear, light-coloured honey, with a faint, pleasing aroma was coming in, the bees were at their revels somewhere. Surely we are for a bumper year!—J. WHITTAKER.

Alton and District Bee-Keepers' Association.

By the kind invitation of the President, Lady Bradford, a very enjoyable and instructive gathering took place at Medstead Manor, on Thursday evening last, when a lecture and demonstration was given by Mr. H. P. Young, Hampshire County Council Instructor.

In addition to the president, we noticed Miss Horsley, Mrs. Hewitt, General Lushington, Rev. W. G. Cazalet, Mr. Edward Stewart (chairman), Mr. Schelp, and others, some sixty or seventy in all.

Mr. Stewart briefly introduced the County Instructor, and incidentally congratulated him on the excellent work he was carrying on in the county on behalf of agriculture, and referred to his successes as an exhibitor at the recent Royal Counties Show at Bournemouth.

In the course of his lecture Mr. Young gave a practical demonstration of the methods of fitting up frames, sections, shallow frames, etc., explaining in detail the working of a modern frame hive to the best advantage. Many simple mistakes, made by beginners, were pointed out, and the remarks of the lecturer were closely followed by his audience.

A demonstration of the handling of live bees then followed. A hive with a skep on top of the brood frames was selected for examination, and Mr. Young showed how the bees, having become established on the frames of comb, could be driven from the skep in order to get the queen on to them, and, by the aid of the queen excluder, keeping her there. The replacing of the skep allowed the brood to emerge in the skep before its final driving and removal. Eggs, grubs, and sealed brood were pointed out, as also was the difference between drone and worker brood. A number of questions were lucidly answered by the lecturer.

Thanks to Lady Bradford for her hospitality, and to Mr. Young for his address and demonstration were accorded, and a most enjoyable evening's entertainment brought to a close.—*Communicated.*

Cheshire Bee-Keepers' Association.

MEETING AT BRAMHALL HALL.

A most enjoyable and highly successful meeting of the Bramhall Section of the C.B.K.A. was held on Saturday, July 2, in the magnificent grounds of Bramhall Hall, Cheshire, by the courtesy of T. C. Neville, Esq.

The Chairman, Mr. W. Stokoe, of Romiley, addressing an audience of about 60, briefly urged the desirability of "keeping bees, more bees, and, if possible, more bees under the same hive-roof," and emphasised the necessity for young and high-class queens.

The well-known lecturer and judge, Mr. E. W. Franklin, Hon. Secretary of the C.B.K.A., then conducted his hearers through the routine work of the whole year. Pitfalls were pointed out, processes explained, and the most modern improvements in manipulation clearly expounded and emphasised by personal experience and genial humour. A number of questions were answered, and this part of the proceedings terminated with a hearty vote of thanks to Mr. Neville and the lecturer.

The party were then escorted through the grounds by the head gardener, who had just cause to be proud of the variety and perfection of the flowers, fruit, and vegetables under his supervision. The delphiniums (including the new white variety), antirrhinum, nemesia, and oriental poppies particularly struck the eye, while the sweet peas were simply wonderful.

Bramhall Hall, a glorious specimen of the black and white timbered Cheshire hall, stands in a champagne country of remarkable fertility, almost ideal for bees. The apiary was visited, where Mr. W. Bradburn, the local Secretary, gave a demonstration showing fine specimens of shallow combs already capped. The section hive was judiciously left undisturbed. The bees are of Simmin's strain, housed in Masheath hives. A spare hive was taken to pieces and explained, and some of the 16 by 10 frames handed round for inspection.

The whole arrangements were perfectly organised by Mr. Bradburn, who seemed to

be as expert in managing a crowd of people as he is a crowd of bees.

The success of the meeting is also a tribute to the preparatory spade work done by him in the district for many years, both as expert and in building up the membership of the Association.

(*Communicated.*)

Staffordshire Bee-Keepers' Association.

By the kind permission of Dr. Johnston, of Alrewas, near Lichfield, a meeting of bee-keepers was arranged at his apiary on Saturday, July 9, when over forty availed themselves of the opportunity.

Mr. Price, the C.C. expert, gave a demonstration preceded by an address, in which he said that meetings of this kind were most instructive, and of great educational value. Here could be seen the work of Dr. Johnston among his bees, and the results. He knew that the doctor's main ambition was to improve our methods of bee-keeping. Here was an excellent example for every one present to follow, but it was just as well to remember that results such as they now saw could not be obtained unless much time, thought and interest was given to the work. Education on bee-keeping was certainly very much needed by everyone, but if bee-keepers would take advantage of all the facilities now offered them it would soon be possible to have more bee-keepers of Dr. Johnston's type, and he was quite sure that if all bee-keepers were half as accomplished we should hear far less of disease and the need of legislation.

After the inspection of the bees and appliances an excellent tea was provided on the lawn.

Mr. Job, of Alrewas, in moving a vote of thanks to the host and hostess, said he was sure they all were thankful to Dr. and Mrs. Johnston for their kindness in allowing this meeting, for their hospitality, which was excellent, and, most of all, for the Doctor's ever-ready willingness in helping forward and promoting bee-keeping in its best form.

Mr. Smith, of Hill Redware, suitably seconded, saying that meetings of this kind could not fail to help everyone.

Dr. Johnston, in relpying, said he was pleased to have had the pleasure of their company. He hoped all would be the better for their visit, and he hoped all would take note of Mr. Price's remarks about cleanliness and education. He was pleased to move a vote of thanks to Mr. Price for his excellent address.

Under the auspices of the Staffs Agricultural Committee and the Bee-keepers' Association arrangements have been made for a visit to the County Restocking Apiary at the Farm Institute, Penkridge, on Saturday, July 23, at 3 p.m. Dr. Abushady, editor of the *Bee World*, is expected to be present, and give an address.

The Institute is on the main road from Wolverhampton and Stafford, close to where the latter crosses Watling Street at Gailey, eight miles from Stafford, and eight miles from Wolverhampton. 'Buses run frequently past the drive, the railway station of Gailey being a mile away. Penkridge two.

A Brief Report.

An excellent honey season here and good colonies will give from 100 to 200 lbs. surplus. Sections are selling at 24s. per dozen.

Swarming very troublesome. As regards insurance against "Isle of Wight" the "policy" I referred to is that of remitting a few shillings to Mr. S. H. Smith for a select Italian queen.

I have found this a certain method of insuring against "I.O.W."—J. M. ELLIS, Gretna.

July 16.

[We are still "no forrader." This reply is beside the mark, and a free advertisement for Mr. Smith.—EDS.]

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Palestine "Bees."

[10481] Replying to 10,480. I understand that the so-called Wine Bees are a manna or gummy exudation from the boughs of the larch tree in spring. They contain melezitose (a sugar). My informant says they are known in France as Briancon Manna, and probably came from there.

I have been keeping them for some little time now, and have been getting very palatable results indeed until the recent burst of torrid weather.

My methods are too long to give in detail here, but I shall be pleased to answer any specific inquiries of fellow keepers of the *real* bees who are amusing themselves with the "Palestine" variety.—F. LAVELL, 7, Ryde Vale Road, Balham, S.W.12.

Delights of the Season.

[10482] In spite of the hot weather I opened my hive No. 1, and 25 lbs. in one super shallow combs, all capped. I extracted and put back the combs, the honey was beautifully golden. The ripener does the trick. This hive has another large super underneath, which will soon be on top of the other. Three others have drawn out combs, but are now in the sections, so I am keeping the bar section for another hive. If things go on I hope for a large quantity of this very fine honey, being the best I have

seen yet. Small hives near me are giving sections by the dozen, which I am glad to see, as they all went west during the winter, but were started again as advised. I find I have a good sale in front of me, so by keeping my stocks this year I hope to profit my doings, as it is hard work getting hives cleaned and repainted, etc., as I expected large swarms. In extracting honey I find by using the hot knife when uncapping and cutting straight downward I get a cleaner cut than by cutting upwards, as one seems not to get the strength so even as a downward stroke. Of course, some like this way, but I have seen awful hashes by large, deep cuts by doing it upwards. One wants to give the bees back a smooth surface to work on.

I wish luck to all this season, and sincerely hope we won't hear of stocks going under this coming winter.—C. TREDCROFT.

Queen on Alighting Board.

[10483] Though a bee-keeper of many years standing, it was never my fortune to see a queen-bee on the alighting board. This I did on Sunday, June 12, about 4.30 p.m One bee was walking round her as if cleaning her, which I watched for some time. Then, on a straw, I placed her near the entrance, when she was immediately attacked by the bees. The piping sound was unmistakable. She escaped and flew on to the outside of the hive, afterwards returning and getting inside the hive, but with the same piping result.

I would like to know Mr. Editor, with your usual kindness, if this is not unusual.—T. T. GETHING.

[It is not unusual to see a virgin queen on the alighting board, before she has mated, when she is taking short flights in order to locate the hive. This is probably what occurred in this case.—EDS.]

A Swarm from a Swarm.

[10484] Your correspondent, No. 10471, Mr. A. H. Cooper, may be interested to hear that I wintered a stock on eleven combs pure Italian, with no extra syrup, as they had plenty of stores:—

On March 17 spring cleaned.

April 20 put on first rack.

May 1 put on second rack.

May 23 swarmed, took off 28 capped sections.

Hived swarm on old stand to catch flying bees.

Swarm swarmed on June 30, took off 60 capped sections.

Hived second swarm on original stand.

I have now three colonies with eight racks on, having taken off 88 sections.

I, like others, wish I could prevent swarming. I give plenty of room: in one case I had the stock on 30 combs, but still they swarm.

The secret of success is wintering, I always put on a glass quilt, with about six layers of blanket well tucked in and give plenty of combs.—Yours faithfully, C. SAMMAN (Lt Colonel), Kirriemuir, Stillorgan Park, Co. Dublin, July 1, 1921.

Notices to Correspondents

A. V. W. (Wales).—*To distinguish honey dew from honey.*—Honey dew is usually thin, the colour very dark, with a greenish tinge, and muddy appearance. It is often mixed with honey, and the colour will vary in proportion to the amount of honey dew present. Pure honey dew appears almost black by transmitted light when in a jar or comb. The flavour is not nice.

Bees clustering between brood box and outer case.—This may be caused by heat, or want of room, or both. Give more room and ventilation.

M. K. (Worcs.).—*Extracting honey from combs containing brood.*—This may be done if the brood is sealed, but will need care. The cages should only be revolved just fast enough to extract the honey. It is almost impossible to extract the honey from combs containing unsealed larvæ without throwing them out also. You did quite right in removing the honey clogged combs.

Swarms deserting skep.—It is better to hive swarms the same evening. If they must be kept longer, tie a piece of scrim, cheese cloth, or other open material over the skep, and place in a cellar or a cool dark place with the *mouth of the skep uppermost.* We don't know why a swarm will desert the hive, but it is no unusual thing for it to do so.

H. V. J. (Godalming).—*Medicating drinking water.*—It is a good plan to do this. You cannot use anything better than "General Bacterol," a tablespoonful to a quart of water. You may also put a little salt in the water.

B. P. D. (Lancs.).—*Observatory hive.*—A single comb observatory hive is not of much service, and is usually only used for exhibition purposes. For continued observation a hive with three combs one above the other is generally used. The sides of the hive are glass, so that both sides of the combs may be seen. When not under observation these are covered with baize-lined shutters. Particulars of this hive were given in the "B.B.J." of March 12 and 26 and April 9 and 23, 1914.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d. up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

July 20 and 21, 1921, at Cardiff.—Cardiff and County Horticultural Society's Show, Sophia Gardens, Cardiff. Bee section under the auspices of the Glamorgan Bee-keepers' Association. Open Classes.—Schedules to be obtained from the Hon. Secretary, Chas. F. Davies, 5, Borstal Avenue, Cardiff.

Saturday, July 23, 1921.—Wyke and Normandy and District Horticultural and Agricultural Show. Honey (Open):—Class 71: Section Honey, best three sections, 5s., 3s., 2s. Class 72: Run Honey, three 1-lb. glass jars, light, 5s., 3s., 2s. Class 73: Run Honey, three 1-lb. glass jars, dark, 5s., 3s., 2s. Entrance 6d.—H. L. Mumford, Hon. Sec., Heatherside, Normandy, near Guildford. **Entries closed.**

Wednesday, July 27.—In connection with the Wallop Horticultural Society. District Classes of 12 miles radius. Open Classes for single jar and section.—Schedules obtained from P. E. Roberts, School House, Nether Wallop, Hants **Entries close July 23.**

Saturday, July 30, and Monday, August 1, 1921, at Lichfield.—Lichfield Floral and Horticultural Society's Show. Bee and Honey Section under the auspices of the Staffs Bee-keepers' Association. All classes open.—Schedules may be obtained from the Hon. Secretary, A. H. Perrins, 30, Tamworth Street, Lichfield, Staffs.

August 1, at Norton Sheffield.—In connection with Norton Ploughing Association. Seven Classes for exhibitors within radius of 10 miles; one Open Class for display of Honey, Wax, Mead, etc., on space 3 ft. 6 in. x 3 ft. 6 in. Prizes, open class, 30s. and medal, 10s., and 5s.—Schedules from W. Bashforth, 45, Bank Street, Sheffield.

August Bank Holiday.—Revival of Cambridge Mammoth Show. Bee and Honey Section in charge of Cambs. and District Bee-keepers' Association.—Schedules from E. C. R. Holloway, Burwell, near Cambridge.

August 2 and 3, Abington Park, Northampton.—Northants. Bee-keepers' Association, in connection with the Municipal Horticultural Society's Flower Show. Open Class. Special prizes. 1 lb. jar of honey, 1st 20s., 2nd 12s. 6d., 3rd 7s. 6d.—Schedules from Mr. B. F. Swann, 41, St. Michael's Mount, Northampton. **Entries close July 25.**

August 4, at Madresfield, Malvern.—Annual Show of the Worcestershire B.K.A. Four Open Classes. Gift Class, no enfry fee, one 1-lb. bottle, prize 21s.—Schedules from G. Richings, 42, Barbourne Road, Worcester. **Entries close July 30.**

August 10, at Wye.—Kent Honey Show. Thirty classes, half of which are open to U.K. Four Silver Cups and 75 other prizes. Schedules, Mr. H. C. Chapelow, S.E.A. College, Wye. **Entries close July 30.**

August 13 and 15, Cannock (Staffs) Show.—£12 offered in prizes for Honey Classes. Concession to exhibitors to meet increased railway charges, viz., only four bottles to be shown in each class.—Schedules from J. Bird, F.H.R.S., Glenmay, Cannock.

August 20, 1921, at Ammanford.—Carmarthenshire B.K.A., in connection with Ammanford and District Horticultural Show. Silver and Bronze Medals for Members' Classes. Open Classes for Honey, Wax, etc. Good prizes.—Schedules from W. Comery, 15, New Road, Ammanford. **Entries close August 17.**

August 27, at Hinckley.—In connection with the Hinckley Sweet Pea and Rose Society's Annual Show. Open to all bee-keepers. 1st prize, 12s. 6d.; 2nd, 7s. 6d.; 3rd, 4s.—Schedule from A. Kimbrell, Clarendon Road, Hinckley.

September 17 to 23.—British Bee-keepers' Association Annual Show at Grocers' Exhibition, Royal Agricultural Hall, Islington, London. Entries close September 5. Schedules from Hon. Sec., B.B.K.A., 23, Bedford Street, Strand, London, W.C.2. **Entries close September 5.**

Special Prepaid Advertisements.

One Penny per Word.

Trade advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1½d. per word as "Business" Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 7s. per ¼in., or 12s. per inch.

PRIVATE ADVERTISEMENTS are only intended for readers having* Surplus Stock *to dispose of.* Driven Bees, Nuclei, *and* Queens *that are reared or imported for sale, are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.

Advertisements must reach us NOT LATER than FIRST POST on MONDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

BROTHER BEE-KEEPERS.—Country Apartments, board and residence; trout fishing.—HORSLEY, Greeba Mills, near St. John's, I.O.M. r.r.12

CARDBOARD SECTION CASES for glass one side, 50, post free, 5s. 6d.—NELSON, Paradise Cottage, Appleby, Westmorland. r.85

SPARE STOCKS BEES for Sale cheap; never had disease.—VICAR, Worsbro' Bridge, Barnsley. r.86

LIGHT LINCOLNSHIRE HONEY, in 28-lb tins, £8 per cwt., carriage forward; sample 4d.—THOMPSON, Helpringham, Sleaford. r.87

STOCKS on 10 frames, 1921 Italian Hybrid Queen, laying, price £3.—CRAIGHEAD, Abbey Wood, S.E.2. r.88

EARLY JUNE SWARM Golden Italians, very strong, 11 frames, £4; box 10s., returnable.—WHETSTONE, Barrow-on-Soar. r.89

SURPLUS STOCK for Sale, strong, healthy Hybrids, 4-frame Nucleus, 35s.—ROWLEY, 46, Tottenhall Road, Palmers Green, London. r.90

FOR SALE, strong Nucleus, warranted very gentle, Penna strain, powerful stock next year, £2 15s.—WILLIAMS, Beverley Road, Barnes. r.91

PURE LINCOLNSHIRE HONEY, £8 8s. per cwt., carriage paid.—J. H. ROPER, Thorpe-on-the-Hill, Lincoln. r.92

7-FRAME Stock Italians, 56s.—EKINS, Hill Top, Burntwood, Staffs. r.93

TWO 5-FRAME STOCKS, Italian Hybrids, £4 the two, carriage paid; box 5s., returnable.—CORNALL, Schools, Minster, Ramsgate. r.94

OVERSTOCKED.—Selected Italians, 3 frames 30s., 4 frames 35s.; spare Queens, 9s. Satisfaction guaranteed.—FROST, Sandyford, Stone, Staffs. r.95

PURE LIGHT CAMBS. HONEY for Sale, £9 per cwt.; sample 6d.—JAMES STARLING, 5, Bowers Lane, Isleham, Cambs. r.96

HIVES in perfect condition, three for disposal, £3 10s. the lot. Would separate.—NICHOLAS, Markyate, Dunstable. r.97

ABOUT 3 cwt. of this season's crop of Honey for Sale. What offers per cwt.?—HAWKEN, Polkerris, Par Station, Cornwall. r.98

HEALTHY SWARM Italian Hybrids, 5 frames, with brood, £2.—GLYNN, 15, Kelvin Avenue, Palmers Green, Middlesex. r.99

SALE.—3-frame Nucleus, £2; 4-frame, 50s.; headed by Penna Queens; boxes free, carriage paid; spare Penna Queen, 9s., by return.—HEWITT, Balne Avenue, Wakefield. r.100

BEES FOR SALE.—Four Stocks in good hives, £4 10s. each; "W.B.C." Lee's "Holborn," and other Hives in good condition, only require painting, from 25s. each.—COOK, Torwood, Ashford, Middlesex. r.101

PURE HOME-RAISED 1921 Italian Queens, 7s. 6d.; surplus Stocks; Geared Extractor.—HOLLINGSWORTH, Heanor. r.54

SURPLUS.—Five strong 5-frame Stocks, Italian Hybrid, 45s., carriage paid, £10 the lot.—BARNES, 20, Bourdon Road, Anerley. r.109

NUCLEUS, 4-frame, 1921 Italian Hybrid Queen, prompt delivery, free on rail, £2 2s.; travelling box 12s. 6d. extra (returnable).—DART, Devon Seed Stores, Barnstaple. r.110

WANTED, several 4 lb. lots Driven Bees.—Particulars, EDWIN GLOSSOP, Ambergate. r.112

FOUR strong surplus Stocks, 10 frames and full in supers, good stores, £4, carriage forward.—RECTOR, Llandyssil, Montgomery.

FIRST GRADE Light English Honey, £8 per cwt.; tins to be sent; sample 6d.—HOWLETT, "Sylvabelle," Tring. r.r.41

FOR SALE, Meadows' Honey Press, used one season, 40s.; also Taylor's No. 71 Extractor, 30s., f.o.r.—WILLIAM FAKE, Harpley, King's Lynn. r.44

BOXES FOR MAKING HIVES. — Inside measurements, 20½ in. long, 17 in. wide, 12 in. deep, dovetailed and nailed corners, all ⅞ tongued and grooved boards; five boxes sufficient for two hives; all complete with lids; put on rail for 1s. 6d. each, or £6 10s. per 100.—MITCHELL "Elderslie," Branksome Avenue, Stanford-le-Hope, Essex. r.r.47

300 LBS. pure English Run Honey for Sale. heather mixture, in 56-lb. tins, at 1s. 6d. per lb.—E. R. DEBENHAM, Bladen Apiaries, Briantspuddle, Dorset. r.r.82

SURPLUS STOCK healthy Bees for Sale.—JEWITT, Hensall, Whitley Bridge, Yorks. r.r.11

WANTED, as a whole or any part of the following:—A 2 or 2½ H.P. Oil or Petrol Engine, with the necessary dynamo, accumulators, switchboard, wire, switches, bulbs, and other necessary fittings for lighting house with electricity; also 2-in. Force Pump for well 90 ft. deep with overhead apparatus to be driven by above engine.—W HERROD-HEMPSALL, Old Bedford Road, Luton, Beds. r.q.31

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

BEE-KEEPING.—Correspondence Course. Practical and theoretical study. Stamp.—MISS PALING, Golden Square, Henfield, Sussex. r.m.89

BUSINESS ADVERTISEMENTS.

1½d. per word.

UNIQUE QUEEN OFFER!—10s. 6d. secures a famous Cotswold Queen, and a Bowen "Safety" Introducing Cage given free. Indispensable to apiarists.—BOWEN, Queen Specialist Cheltenham. r.102

GLASS SQUARES for glazing sections, 4s. 6d 100; Glass Quilts, 16-in. square, divided, with feed hole, 3s. 9d. each; packed free.—SMITH, 117, Gt. Hampton Street, Birmingham. r.q.115

STOCKS from 5 frames to 40, 10s. per frame; in skeps 50s.—PRYOR, Breachwood Green. r.r.108

IMPROVED HONEY TINS, superior make, all sizes. Write for cheap prices.—BOWEN. r.103

FAMOUS COTSWOLD NUCLEI.—Three solid frames brood, 30s.—BOWEN, Bee Farmer. Cheltenham. r.104

FEW STOCKS ready for moors and supering at once. Few 4-frame Nuclei, also few 1921 fertile Queens for re-queening.—CHEESMUR, Forest Apiary, Worth, Crawley, Sussex. r.105

"UTILITY" QUEENS, 10s. 6d. each, can be obtained only from LEE, the Beeman, Burgess Hill, Sussex. r.r.106

NATURAL-RAISED fertile 1921 Queens, 5s.—WOOLDRIDGE, Woodleys, Winchcombe, Glos. r.111

I HAVE several 4-frame Nuclei (Hybrid) for disposal, price 35s., box free.—MR. RICHARDSON, Grange House, Grange Road, Gillingham, Kent r.107

QUEENS, QUEENS, QUEENS.—Italian, 10s.; Hybrid, 9s.—J. TICKELL.

SELECTED Virgin Italian Queens, 3s. 6d.; six for 18s., 12 for 30s.—J. TICKELL.

3-FRAME NUCLEI, 30s., carriage paid; box 10s., returnable. — JACK TICKELL, Westbourne Apiary, Bee Farm, Cheltenham. r.113

CORNWALL RE-STOCKING COMMITTEE has a few strong 4-frame Nuclei for disposal at 32s. 6d. each, carriage paid; box 10s., returnable. A certificate of good health will be sent with each lot.—A. F. KNIGHT, Hon. Sec., Kenwyn, Truro. r.114

ITALIAN (1921) QUEENS from Penna's.—Fertile, 12s. 6d.; virgins, 5s.; no disease; safe delivery. —WARD, 16, Church Road, West Kirby. r.r.46

ITALIAN STOCKS, 6 frames, bred from Penna's Queens, crowded bees and brood, 55s.; box 10s., returnable.—FARROW, Garage, Staplefield Grange, near Haywards Heath, Sussex. r.r.51

FINEST ENGLISH HONEY, in 28-lb. cans, 1s. 6d. per lb.; cans and carriage free.—PEARSON & GALE, Marlborough. r.14

FERTILE ITALIAN QUEENS, by return of post, July 8s. 6d.—PEARSON & GALE, Marlborough. r.q.96

STRICTLY BUSINESS. — Free samples of Flavine—S; a Japanned Sprayer, 6s.; one dozen Flavine—S Powders, 1s.; "Let the Bees Tell You," 2s. 6d.; all post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. r.64

SERVICE AND COURTESY.—The Acarine 1921 Eclipse Pad, Reg. Trade Mark No. 414,719, simple, clean and effective, post paid 2s. 6d., including our new "Chloroform Treatment" Circular.—S. H. SMITH, 30, Maid's Causeway, Cambridge. r.65

SURPLUS.—Strong healthy 4-frame Nuclei, 35s., carriage paid; 5s. refunded on return of box.—H. WITT, South Ascot, Berks. r.r.68

OVERSTOCKED.—Several strong Nuclei of Italians (Bozzalla and Penna strains) for immediate delivery, 4-frame, 42s.; 6-frame, 63s.; 1921 Queens.—R. V. ROBERTS, 50, Otter Street, Derby. r.r.69

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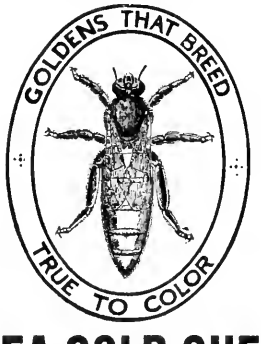

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¶ Characteristics: Dutch bees are credited by all impartial critics with splendid prolificness, eminent suitability for comb honey production, and fitness for use with large hives; and, above all, their remarkable resistance to *Acarine disease*, as confirmed by recent research (see Dr. Rennie's Report, pp. 747-751).

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NOTE.—These are *not* small driven lots with half depth combs.

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¶ References: "Those who fancy this variety cannot get them from a better source than 'Orme Lodge Apiary,' Mr. Whyte is Agent for the best known and largest bee-keeper in Holland, Hans Matthes."—The B.B.J., March 10, 1921.

"The championship of the Dutch bee, for which Mr. Whyte is known, receives an illuminating tribute in his catalogue, which is a literary and practical treatise on this hardy race of bees."—The *Bee World*, April, 1921.

R. WHYTE, Orme Lodge Apiary, Cumbernauld, Dumbartonshire.

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British Bee Journal & Record Office,

23, BEDFORD STREET, STRAND, W.C.2.

Bees for Ex-Service Men.

In connection with the offer of one of our readers of two stocks of bees for the above, we have received scores of applications. There is now an opportunity for those who have surplus stocks that they would like to get rid of. These fellows, many of them badly maimed in the war, are anxious to start bee-keeping, but lack the means. We are quite sure there are many bee-keepers who would like to do a little to help them for their splendid services to the country. We shall be pleased to forward the name and address of the most deserving cases to anyone desiring to render this service.

May we also ask that the ex-Service men do not send stamps for replies, as there are so many that although we would like to reply to each, pressure of work prevents.

A Dorset Yarn.

Dorset just now has over its share of wasps. Those of us who have fruit have to destroy their colonies, but, notwithstanding all we stamp out, many others come from afar, and they are starting on pears when quite hard. Czar plums have a great percentage started on as soon as they turn colour. The bees always have a guard at the entrance to keep off the yellow-coated thieves; it is astonishing how some will kill the wasps in great numbers. Wasps go in the entrance late in the evening and early morning, and the bees in some stocks clear out numbers of them. Mr. Wells, a bee-keeper who has "Goldens," says that no bees that he had ever kept defend their homes like these goldens. Outside the entrance are to be seen dozens of wasps; they do not carry them off as they do the drones they destroy, but cast them out on the soil in front of the alighting board. These goldens are from Mr. Sladen's stock before he went over the other side. Mr. Wells has now a queen throwing all pure goldens, and the drones are the most beautiful I have ever seen. Even in the nuclei, where the bees are not over numerous, the wasp is killed which ventures into their hives. 'Tis the same with stocks that have drone traps and swarm catchers at the entrance, wasps are destroyed by these bees.

Mr. Wells is an excellent breeder of bees. Where a queen has thrown extra-fine drones he gives them a bar of drone comb in the centre of stock; these develop the finest marked bees. He traps all the hives that throw badly-marked drones. Nothing is left to chance in breeding these goldens, yet he gets the most honey from the hybrids, either first or second crosses give him the most. The goldens which he aims at keeping true cannot make so much honey, as there are so many drones. He showed me a bar of drone comb (which I should have taken away from a stock for producing honey), but he sacrifices honey to breeding pure bees. Everyone to their fancy. I keep bees for gathering honey, and when it takes six workers to work all day to get enough to feed one drone, there cannot be much surplus honey.

"It's a' for the apple we nurish the tree,
It's a' for the hiney we cherish the bee."

Each year we learn more of bees, not half has ever yet been told. Shall watch with great interest his goldens as the years go on. They have one quality, which will commend them to most, that is their gentleness. As he went through each hive, after the carbolic cloth was once over it in starting, none of them seem to move away from the combs, but all seem to want to cover up the brood and honey.

It is some time since we read much of goldens. Mr. Bowen, of Cheltenham, used to have them. Where others have died of disease, Mr. Wells says these have never gone under with the crawling scourge; they have had it, but have won through, that is saying a lot for goldens. Some of the crosses (goldens and blacks) are excellent workers, but they lack the gentleness of pure goldens. In manipulating them he was stung five times on the tip of the nose by them. He has tried crosses of Italians and goldens, Cyprians and goldens, but none are so gentle as pure goldens. He has also a hollow tree stump which is full of bees. A piece of glass over the top shows them to all visitors; they have warm felt and a zinc cover over the whole. Either he has more wasps than we have, or else his bees are better fighters than are ours. He certainly has the most dead wasps.

This week, July 23, our bees have not done so well. Flowers are getting scarce; fields that were gay with them a week or two since are now bare. There is no charlock among the roots. Swedes and turnips have been sown, but the seeds do not germinate. If they do not start growing, neither will the charlock. Hundreds of acres in Dorset are without a crop of roots, and it will be a bad winter for the sheep, but with bees it will be a short honey season for all who have not the heather to reap a late harvest.

Bees have been filling the brood chamber with stores this last three weeks. This I look at with alarm, because it is from a lot of young brood in late summer that come the only workers in early spring. As one looks at the cells as soon as young bees are out, they are filled with honey; there is little room for the queen to lay eggs, while the patches of young larvæ are very small, and are towards the bottom of combs. Where our lot is to put the heather stores (with which they usually fill up the brood box) I cannot see; they seem to think the honey flow is over, as many of them are drawing out the drones.—J. J. KETTLE.

Notes from Gretna Green.

The Season.—Honey is still coming in fast, and supers are now at their maximum height. My Dadant hive has on five large supers with 200 sections, all, more or less, full of honey, and an early nucleus from same is storing in two small racks of sections. The colony on twelve Commercial frames is equally good, and with its increase, storing in 248 sections. Every one of my colonies swarmed, including the large frame hives, and in each case the swarm was returned on starters only with supers replaced above. I was, however, rather surprised to get a swarm (and what a swarm!) from that large hive with its 1921 queen, twelve Dadant brood frames, and five 40-section racks tiered on same. Another colony that swarmed early was re-queened, and extracting supers piled on as required, the bees now covering seventy Standard frames with honey sealed over in the very top super.

Heather Preparations. — Inquiries have reached me *re* my recent mention of two queens in a hive for the moors. The idea is to divide the ordinary brood box by means of a solid centre dummy, and stock each side of the prepared hive with a good colony, using five or six selected frames of brood, the queen, and all her bees. This is not the "Wells'" system, and each lot must be supered separately, as only failure will result if an excluder and joint super is used.

"*I.O.W.*" *Insurance.*—I will justify my statements on this matter later on. Meantime, I have no hesitation in saying that my success in keeping our bees entirely free from disease is solely due to information received from 30, Maids' Causeway, Cambridge.—J. M. ELLIS, July 23.

Bee Incident from Manchester.

The date of the visit of the Prince of Wales to Manchester coincided with the 25th birthday of the Manchester and District Bee-keepers' Association—an association formed by a few in the district of Manchester, who had an interest in common—the study of the honey bee.

Some of its original members still remain, but "Anno domini" has caused lots to resign all membership.

The above Society has given its services to the Soldiers' Training Centre, situated at Carrington Cross, near Manchester, where some of the defenders of our country are being trained in agriculture and allied pursuits, the members giving practical demonstrations, and lectures in the theory of apiculture to the men who are interested, and help in the management of stocks kept there for demonstrative purposes. The scheme has been exceedingly successful, and most men have a fair knowledge, which will be developed by practical experience.

On the date mentioned, a member was travelling through Manchester with a light wooden box containing combs and bees to the Corrington Farm, with the object of demonstrating queen rearing and breeding, but the procession and dense crowds held up all pedestrians. So, waiting to see The Prince, our member placed the box beside him on the pavement and gave all attention to the moving procession and delighted throng.

His patriotic attention was, however, soon distracted by a sharp crack, and a truly feminine squeal which escaped from a lady who had attempted to use the fragile box as a point of vantage from which to secure a good view of the scene!

The lady's leg had dropped among the bees, much to their annoyance and disgust. Their attention did not allow the victim to stay and apologise for the damage done to the box and contents, but she was last observed making a bee line for other parts in a cloud of dust.

The owner of the bees subdued his excited insects and treated the incident as a huge joke. Did the lady?—R. A. C.

A Journey Round My Bookshelves.

"RUSDEN ON BEES."

By D. WILSON.

My collection of bee-books, though not so numerous as those of which some collectors can boast, is fairly extensive, and covers in a very general way the greater part of three centuries. Of course, in the heat and bustle of summer time, when I am employed from morning to night either at business or in the garden, or with the bees, it is rarely that I can find sufficient time to refer to it. In winter I do get a chance.

Renewed apicultural activity has once again set me rummaging amongst the old books, although it is high summer, and it has occurred to me that a brief outline of bee-work, such as is given in them before honey production at high speed was invented, might be interesting to those readers of the "B.B.J." who have not the same opportunities that I have.

In perusing these old books I come across much that is quaint and interesting, much that is entirely erroneous, a little fact at times, and always a striving after better hives, better methods of manipulation, and heavier honey crops. Coupled with it all was a desire for more humane methods of management at a time when everybody took honey by first killing off the bees.

First and foremost in my collection comes "Rusden on Bees." After more than two hundred and forty years of wear it is still fresh, clean and strong. What a delight the old printers and bookbinders took in their work! They had not to cater for the modern craze for a cheap sevenpenny novel, to be read once and then thrown on one side. A book then was "a thing of beauty and a joy for ever." Even if I am two hundred and forty years late, I must congratulate the printer and bookbinder—Henry Million, at the Bible in the Old Bayley. Truly his work lives after him. How the sentimentalist could romance about the old book!

But I have no time for that, so open it and

make acquaintance with its interior. Its frontispiece is an illustration of Rusden's hive, in wood, built up on the storeyfying system, surmounted by a coat of arms and decorated with quaint wood-cuts of bees. The title-page sets out at full length the subject of the book. Then follow in order an address to the King's Most Excellent Majesty, a dedicatory epistle to the Royal Society at Gresham College, and lastly a preface to the reader. We must remember that Rusden lived in a time when public opinion, after experiencing a decade of Commonwealth government, had taken a violent revulsion to it and had once again accepted a Monarchy. Therefore we can admire his astuteness without entirely agreeing with his teaching when he says :—

"Since therefore Nature will herein be made to appear to be the Favourer and Founder of Monarchy; and that such ingenious, laborious and profitable Creatures do voluntarily and constantly betake themselves to that Government, I do most humbly beseech your Majesties gracious Patronage and Protection whilest I demonstrate the truth by the perpetual practice of the Bees."

He suits his remarks to his audience, for in his address to the Royal Society he is careful to deal with the philosophic and scientific aspect of his hobby, whilst when he addresses himself to the ordinary reader he deals strictly with its utilitarian aspect. For what could the ordinary reader of those days be expected to know of Principalities and Powers, of Governments, Kings and Emperors, of philosophic doubt and scientific fact? Rusden knew that with them he would be judged by results, and he set out his preface accordingly.

So in his opening remarks he is all things to all men, and shows a surprising insight into character, and a careful eye to the main chance.

(To be continued.)

"The Dimmons."

(Continued from page 319.)

I often thought of breeding from them, but their vile temper deterred me. So when their queen was superseded the breed of the "dimmons" became extinct.

Apart from their working qualities, I liked the "dimmons"—they were such honest thieves. And on the occasion on which they received their name they rescued me from a predicament that might have been awkward, and for which help I always felt grateful.

It was during the dark days of the war, and I had engaged a workman to mend some of the household fitments. Men were scarce and dear, and needed careful handling. At a word they would pack up their tools and clear, and it required much grovelling to get them back to work again.

I was surprised one day to find my workman standing watching me manipulating my hives instead of getting on with his proper business. I said nothing for a time, but as he was costing me three shillings an hour all the time he remained on my premises, I gently hinted that it was not very safe where he was, and he might get stung.

"Oh, I ain't afeared of bees," he assured me. "I'm all right with them. My father kept bees for donkey's years. I know all about 'em."

The trouble was that I knew the stocks I was handling were most unlikely to sting him or anyone else. But I certainly could not pay him three shillings an hour for doing nothing, and even now he had been on the job much longer than was necessary. What was I to do?

At last I thought of the "dimmons." Gingerly I took off the "lid," while my persecutor stood by and grinned his pleasure. In a minute he began to claw something out of his hair, while an agonised expression stole over his face. Some of them got him about the eyes, and one on the very tip of his nose. Then, with the tears coursing down his countenance, and a bellow like a stricken ox, he turned and fled. "I ain't afeared of bees," he protested, as he ran, "but them's dimmons. I'm out o' this."

I saw him no more till I came indoors about tea-time, when he was just leaving, having finished his job. He had worked as much in the intervening two hours as he had in the previous two days. Good old "dimmons"!

The queen of the "dimmons" was so small that she could pass through any excluder with ease, and she destroyed several batches of valuable queen-cells before I discovered her capabilities in this direction. The colour of her workers was peculiar. Where the ordinary Italian is banded with golden yellow, they were marked with deep fiery red, and the stock contained an abnormal number of the harlequin workers figured by Mr. Sladen in his book. In these the colour is not distributed in bands, but the upper half of the abdomen is pure yellow and the bottom part solid black.

I have no doubt that the "dimmons" were a throw-back to one of the primitive elements latent in the Italian bee, which itself is one of Nature's crosses—the fusion of the bright Mediterranean bee with the dark or German bee in the zone where the two races come in contact.

HUGH HOUSTON.

Sidcup, Kent.

Bee Notes from Derbyshire.

Perhaps a few notes on the production of heather honey from me would not be out of place just now, seeing that I have been selling some of the best heather sections it has ever been my lot to produce as far as flavour goes. I am greatly indebted to Mr. W. Mist for my heather section this year, although I had nearly tumbled across the same idea by accident last year, when I read what he said in "B.B.J." about working nuclei up to strength for filling heather sections, I carried my idea a step further, and I came off well, but, like him, I have yet to see the season and a stock of bees that will fill and seal two racks of heather sections. From my best stock, a three-frame nucleus made on June 3, I took twenty-four well-finished sec-

tions, six of them 18 ozs. It had two racks on, and the rest were partly filled. That stock was carried to the moor on July 7, when it covered six combs of brood, so there was no pickled brood when heather honey came, and I warrant there was quite 50 lbs. of honey in brood combs, and such crowds of bees, they could hardly get on to ten combs when the sections were off, but not a cell of brood or eggs could I find. That was the last week in September, while another one had brood in three combs a fortnight later than that. But how the heather honey varies in colour and density each year. In 1906 Mr. Pearman and I got a sample of heather honey that Mr. Berry could not beat. When that quality will come again on to Beeley Moor it is hard to say. Unless it came in 1914 it has not come since. It lacked the hot sunshine, else I am positive it would have come this past season. In 1906 heather honey came late, but it came on six very hot days: the last three in August and first three of September, and the honey! A customer said when one opened a pot in the cellar one could smell it in the attic. I have a pot of it now, and it is still of the jelly-like consistency that it was when bottled up thirteen years ago. I cannot see it has altered a little bit, but it may have gone a shade darker in colour.

While looking some old Journals over some time since, I was struck by a paragraph relating to Mr. Pearman's bees working on bell heather. I have travelled those moors in all directions of late years, but I never came across any quantity of bell heather, and I never noticed any bees working it till one day last year. I do not agree that a cart is best to take bees to the moors. A good horse and dray is very nice, but give me a motor delivery van; it runs smoothly, hills are no obstacle to it, and where it took me three hours to go with a horse and dray, we were just twenty-five minutes going up this time, and I consider the bees would be resting two-and-a-half hours that otherwise they would be jolting on a dray; also one does not need to be going all night, or at night at all. I have gone up at night, and let the carter come back when unloaded, while I have laid under a haycock till daylight, so as to straighten things up before I left them, but I hope those days are past and gone now the motor delivery van has come to stay.

I should say I got 10 or 12 lbs. of pure heather honey last season, for on Beeley I could never find bees working on aught else. They drew the combs and gathered that much after August 30. A 2-oz. sample jar that I kept is just showing signs of granulating now, while another of heather blend has granulated solid. "An Able Bee" cannot have travelled about the country much, else he would know pure honey of certain kinds can easily be got. I have seen fields and fields of clover in bloom in both Yorkshire and Lincolnshire where bees would never think of touching anything else, even if there were anything else in bloom to touch for miles, which I do not think there was, so how could it be aught else but clover honey, but round this part lots of flowers come in with the clover, as it all grows in pastures and meadows.

About hives for heather going. I have seen all shapes and sizes there. I have always used Meadow's XL. hive; it is handy to pack up. Have put ten on a dray and been out of the field in half an hour. The entrance has perforated zinc, just turn it over, the wraps are taken off, a cheese cloth or open sacking put over top on dummy lift pressed down; all is secure in a moment. I should say a W.B.C. hive would be about the worst for quick packing The X.L. hive would pack three in a row across a dray and wedge in tight, entrances to the back, then three more standing back up to them; then if I put three more on dray they would stand entrance to entrance, as it gives more air-space that way, and that was a fair load for one horse to get up these hills with. I should say anyone thinking of taking bees to the moor would do well to get in touch with someone who was an old hand at the game, for its a risky business at the best of times, especially when some daft mortal goes and takes a horse's bridle off for it to eat grass, as I saw one youth do once. As luck had it he had taken the bees out of the trap first. As soon the the bridle was off the horse took fright at the trap and galloped into the stone gate-post. The trap stopped there, but not the horse; it careered down the road a mile or two before it stopped. If its head had been toward the twenty-seven beehives that were there, no telling what the consequence would have been. I don't think I can improve on what Mr. Price says. The biggest difficulty, late years, has been having any bees to take.—Tom Sleight, Clay Cross.

Treatment of Acarine Disease.

About two years ago I recommended sulphur for treating so-called "Isle-of-Wight" disease, and found it was effectual in warm weather but of no use in winter. Lately I have been trying sulphide of ammonia, which is a volatile preparation of sulphur and a very powerful insecticide (much used, I believe, by horticulturists), with very satisfactory results. My method of using it is to procure a small tin, puncture a few holes in the lid and put a piece of cotton wool saturated with sulphide of ammonia in it. This is placed behind the dummy board and the space between it and the side or end of the hive, as the case may be, covered over in order to retain the fumes. Fresh sulphide may be added from time to time if required. Having a hive badly affected with acarine disease, I adopted the above treatment, and after two days a cure was apparently effected. In order to ascertain if the sulphide of ammonia was harmful to bees I caught about a score of diseased bees, which I placed in a glass jam jar in which was some cotton wool saturated with the sulphide. After a quarter of an hour I returned the bees to the affected hive and did not find them any the worse for their fumigation. I may say I used old brood combs which were from hives previously affected: these before use were fumigated

with sulphur fumes, in the hives, so that combs, hive and quilts were disinfected.

Another volatile preparation of sulphur, obtained chiefly from leeks and onions, called allyl sulphide, may be used, but is much more pungent, as well as very expensive. The sulphide of ammonia may be obtained from any chemist for a few pence.

I should be interested to know whether others who may give this treatment a trial find it effectual, for now that we know the cause of the disease we may look for a cure, and I am hopeful that we may have found it. —DR. WILLIAM ALLEN, Ambleside.

Norwich Notes and Notions.

Bees about this district are going strong, Norwich being a city of gardens in a garden. A genial friend of mine had last year three stocks and thirteen swarms and a good few sections. This season he has seven stocks in various types of hives and no swarms so far. From one, a cottage hive, he has already taken 130 sections, and many more to follow. The bees are natives; the Italians are doing very little about there. This proves that a good stock, no matter what kind of hive or size of frames, with local conditions and management right, will deliver the goods.

He is a generous person, a lover of Nature and bees, with patience and perseverance; he is getting a just reward. One thing that is happening all this season is that the bees are always killing the drones.

A stingy (vicious) stock of bees here killed six black chickens, knowing that something in black disturbed them, and so had their spite on the poor chickens; the white ones were unharmed.

Have you tried those standard frames with arrow-shaped ends, wedge and groove? They are self-adjusting; much better than those horrid tin ends.

About bottom boards. Why not a false one that one can pull out in the front, save undue disturbance of bees; easily pulled out and brushed clean, even in winter? Make a door that lifts up in front under porch, or to form a porch; in summer lift up door and place a strong piece of perforated zinc in front. This makes a good ventilation. Do you get me?

[We had one of these 25 years ago.—EDS.]

Talk about queens! I had one a few years back such as I have never seen mentioned. It had a drone head and extremity and a very long body. Is this the king bee rev? I thought I had a prize one. *It did lay*, and all drones, too. Was this reared from a drone egg and nurtured as a queen?

Are there any large, transparent glass dishes that one could fill with candy, then invert over the frames in winter? One could see without any disturbance how the bees and candy are getting on in winter. Cover over top as usual; this would conserve the heat. The dishes could be used in the house in summer for fruit for the table.

Phew! It's hot and dry. When Old Sol is sinking fast, a golden red, and mist begins to rise, I cycle out to yarn of bees, also wishing for a heather pitch for our bees, only to arrive home near midnight loaded with sundry garden produce, happy and glad. Such is the pleasure and joy bees bring to a city man. — ARTHUR TROWSE, Eade Road, Norwich. July 11, 1921.

British Bee-Keepers' Association.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, July 21, 1921.

Mr. W. F. Reid presided, and there were also present: Miss M. D. Sillar, Messrs. A. Richards, C. L. M. Eales, W. E. Moss, W. H. Simms, G. R. Alder, G. J. Flashman, G. S. Faunch, G. Bryden, and J. Herrod Hempsall. Association Representatives: Messrs. E. G. Waldock and W. E. Hamlin (Surrey), H. E. Watts (Hertford), E. M. Ball (Bucks.), C. D. Burnett (Twickenham and Thames Valley), R. R. Balbage (Middlesex).

The minutes of the previous meeting were read and confirmed

Letters of regret at inability to attend were read from Mrs. Newham, Sir Ernest Spencer, Mr. T. W. Cowan, Rev. E. G. Bartlett, Rev T. Morley Davies, Mr. F. W. Watts, Mr. G. W. Judge, and Mr. A. G. Pugh. The latter through a serious operation, and the hon secretary was instructed to write and send the condolences of the Council to Mr. Pugh, with a sincere wish for his speedy recovery.

The following new members were elected: Mrs. S. Hull, Messrs. J. S. Leigh, Maurice Herrod-Hempsall.

The following Associations nominated representatives on the Council, all of which were accepted: Middlesex, New Forest, Dorset.

The King's Lynn Association applied for affiliation, and were accepted

The report of the Finance Committee was presented by Mr. Bryden, who stated that receipts for June were £12 3s. 8d., the bank balance on July 1 being £131 9s. 9d. Payments amounting to £4 1s. were recommended.

The report on the final examination was received, and it was resolved to grant certificates to the following:—Misses N. Meston, G. M. Darrington, K. Millen, N. Tait, D. F. Welti, C. Dyson, M. D. Bindley, Revs. M. Yate Allen, W. P. Jones, and T. E Peters, Messrs. J. Anderson, M. K. Wall, A. J. Blakeman, W. Gatwell, T. Payne, D. E. Ponvonni, D. W. Walters, and J. J. Hogbin.

A very hearty vote of thanks was passed to Mr. D. M. Macdonald for carrying out the arduous duties of examiner.

Reports on preliminary examinations held at Exeter, Falmouth, Doncaster, Thornton, London, Ipswich, King's Lynn, Hertford, and Guildford. It was resolved to grant certificates to the following:—Mrs. C. Notcutt, Mrs. R. Newham, Mrs. W. Clark, Misses M. Jones, D. Mills, R. Byrne, I. Sargent, R O'Byrne, E. Morgan, M. Wild.

M. O. Forbes, E. M. Hopkins, L. K. Bond, M. Heard, L. W. France, M. Mack, Revs. E. J. Edmunds, G. G. Grylls, J. H. Beecroft, Messrs. B. G. E. Knight, F. E. Bartlett, A. F. Knight, C. Harrison, W. F. Chafer, A. L. Bralley, J. A. Claxton, H. Cheesman, J. Barrett, P. O. Groves, E. G. Creek, R. Incoll, G. E. Millard, J. C. Hovell, C. Godfrey, F. Woods, G. A. Knowles, D. R. Milton, H. A. Furbank, C. G. Barrett, G. Hawes, D. J. Coates, L. W. Spriggs, G. Butcher, A. Lindsell, R. P. Sims, F. M. Falshaw, E. Herd, J. Bowden, E. Hamlin, E. G. Waldock, and Lieut. H. H. Bellers.

Arrangements were made for the conversazione to be held in September.

The following applications for preliminary examinations were granted:—Carmarthenshire, Somerset, Sparsholt, Dorset, Nottinghamshire, Aberdeenshire, Northumberland Shropshire, Middlesex, Henwick.

Next meeting of Council. September 15, 1921.

Doncaster and District Bee-Keepers' Association.

The fourth summer meeting was held on Thursday, July 21, at the apiary of Mrs. Jennings, of Arksey, where a lecture and demonstration on re-queening, and afterwards on extracting honey was given by the secretary, the Rev. M. Yate Allen.

A nucleus of six frames having previously been made in a full-sized hive, minus a queen, the lecturer pointed out that this was by far the simplest and easiest way to raise queens for re-queening in a small apiary. The frames forming the nucleus were taken from a very strong stock, headed by an excellent mother. The eggs therefore should be of the best strain. The nurse bees in attendance, too, were from the same stock. Upon examination five queen cells were found, each having been built round freshly laid eggs, which showed plainly that bees prefer to raise queens from eggs and not from young larvæ, though modern queen rearers appear to think they know better than the bees themselves. The lecturer then explained how these cells could be utilised in various colonies requiring a new queen, and how the nucleus itself would in a very short time become a prosperous colony ready for withstanding a rigorous winter.

Tea was very kindly provided by the owner of the apiary, and the large number of enthusiastic members present and the beautiful bee weather all helped to make it a most enjoyable afternoon.—M. Yate Allen, Hon. Sec.

Hants. and Isle of Wight Bee-Keepers' Association.

SWANMORE AND BITTERNE BRANCHES.

On July 13, in connection with the Shedfield Horticultural Society's Exhibition, the Swanmore and Bitterne Branches of the above Association held their annual honey show at Shedfield, in the grounds of Shedfield House, kindly lent by Admiral Sir Richard Phillimore.

The amount of honey exhibited was the largest there has been for many years, totalling just over 1,000 lbs. All the exhibits in the different classes were very even and of good quality, especially in Class VI., in which there were nine entries, and the judge had great difficulty in awarding the prizes.

Mr. Young, the Hampshire County Expert, to whom the thanks of the Association are due, acted as judge, and also gave lectures and demonstrations during the afternoon.

Below is the prize list:—

Class I. For the best 12 lbs. of super honey in 1-lb. sections: 1st, Mr. C. D. Cawsey; 2nd, Mr. R. Scammell.

Class II. For the best 6 lbs. of super honey in 1-lb. sections: 1st, Mr. C. D. Cawsey; 2nd, Mr. R. Scammell; 3rd, Mr. G. H. Mouland.

Class III. For the best 3 lbs. of super honey in 1-lb. sections: 1st, Mr. F. Sandall; 2nd, Mr. R. Scammell; 3rd, Lady Phillimore.

Class IV. For the best 1-lb. section of comb honey: 1st, Mr. W. Palmer; 2nd, Mr. W. J. Tickner, senr.; 3rd, Mr. E. Ainsley.

Class V. For the largest and best display of honey in any form, from one apiary: 1st, Mr. H. Hall, senr., 175 lbs.; 2nd, Mr. G. H. Mouland, 152 lbs.; 3rd, Mr. G. W. Merritt, 112 lbs.

Class VI. For the best 12 lbs. extracted honey in bottles of 1 lb. or 2 lbs.: 1st, Mr. H. Hall, senr.; 2nd, Mr. W. J. Tickner, junr.; 2rd, Mr. Hall, junr.

Class VII. For the best 6 lbs. of honey, 3 lbs. in 1-lb. sections, and 3 lbs. extracted in 1-lb. bottles: 1st, Mr. F. Sandall; 2nd, Mr. W. Palmer; 3rd, Mr. C. D. Cawsey.

Class VIII. For the best 2 lbs. of honey, 1 lb. section and 1 lb. extracted, in 1-lb. bottles: 1st, Mr. W. Palmer; 2nd, Mr. E. Ainsley; 3rd, Mr. C. D. Cawsey.

Class IX. For the best 3 lbs. of granulated honey in bottles of 1lb.: 1st, Mr. G. W. Mouland; 2nd, Mr. G. W. Merritt.

Class X. For the best two shallow frames taken from hive this year: 1st, Mr. A. F. Hardy; 2nd, Mr. G. W. Merritt; 3rd, Mr. Hall, junr.

Class XI. For the best 1-lb. section of comb honey. Exhibits in this class to be sold for the benefit of the Association: 1st, Mr. R. Scammell; 2nd, Mr. W. Palmer; 3rd, Mr. G. Beach.

Class XII. For the best 12 lbs. section and 12 lbs. honey in bottles (open to all bee-keepers in Hampshire): 1st, Mr. E. Ainsley; 2nd and 3rd prizes divided between Mr. G. H. Mouland and Mr. Hall, senr., a tie.

Class 1. 1st prize, 100 sections in flat; 2nd prize, 1 lb. brood foundation; 3rd prize, 12 bar frames in flat.

Cardiff and County Horticultural Society's Show.

CARDIFF, JULY 20 AND 21.

It's an ill wind that blows nobody any good. The remarkable weather of the last few months did not conduce to an improvement in the quality of the exhibits in the flower, fruit and vegetable section of the above show, but, judging by the interest taken and the quality of the exhibits, bees

seem to have been making hay while the sun shone. There was very keen competition, particularly in the classes for light honey, sections, and shallow frames. The exhibits of observatory hives were surrounded continuously by interested crowds. Keen interest was also taken in the interesting and instructive lectures and demonstrations with live bees by Mr. W. O Jones. The Glamorgan Bee-keepers' Association are fortunate in having the services of this gentleman to run one of their restocking apiaries. He was assisted in judging the exhibits by Mr. W. Dyche, B.A.

The chief prize-winners were :—Mr. A. J. Atkinson, Pentyrch; Mr. Ivor Williams, Wenvoe (with his son, Denys, who, although only twelve years old, can handle bees like a veteran); Mr. C. B. Pardoe, Barry; Mr. T. Jones, Taffs Well (whose exhibits of light honey took the first prize in the open and members' classes); Mr. Oswald Lewis, Bridgend; the veteran Mr. W. John, of Cardiff; and the young bee-keeper, Mr. Wm. Davies, of Cardiff, whose dark honey took the first prize.

It was extremely pleasing to see such novices to the show bench as the following, having the courage to exhibit and take their share of the prizes :—Mr. Godfrey, Cardiff; Mr. Evans, Bridgend; Mr. David, Cardiff; Mr. W. B. Williams, Cardiff; Mr. T. Davies, Clydach; Mr. W. J. Watkins, Pontyclun; while Mrs. Davies, Cardiff, tried her luck with making honey cakes, and was awarded a second prize.

The proudest man in the bee tent was undoubtedly Mr. A. J. Atkinson, Springcroft, Pentyrch, who, having obtained the highest number of points in the show, was awarded as an extra prize the W.B.C. hive kindly presented to the Association by Messrs. E. H. Taylor, of Welwyn. Good luck to him! It was a pleasure to see him driving home in triumph with his hive in front of him. No doubt he will have to look to his laurels next year to win a similar prize, as the runners-up, Messrs. Williams and Pardoe, will, with others, we hope, strive for the honour.

Old habitués of the honey tent at the Cardiff show missed the familiar faces of the late secretary, Mr. Wiltshire, who has retired to his native heath, and of the treasurer, Mr. Freeman Gravil, who is temporarily out of action through ill-health. May they live long to instil love of the craft into the rising generation.—CHAS. F. DAVIES, Hon. Sec., 5, Borstal Avenue, Cardiff.

Novelties for 1921.

In our notice of the Dennis Feeder under the above heading in the BRITISH BEE JOURNAL for June 23, we regret an error was made. The capacity given should be three pints, not six. Mr. Dennis has applied for a patent, and has also kindly sent us one of the feeders. It is well made, and placed at right angles to the top bars of the frames will span eight of them, and as there is a bee space under the whole of the feeder, there is ample room for a strong force of bees to work on the syrup.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Immune Bees.

[10485] I have just been having another look through the last "Notes from Gretna Green," by Mr. Ellis. In the last paragraph he states that his bees are immune, and *cannot* be infected. So we can do away with all our remedies, including insurance against the "Isle of Wight" disease. If we could only get his variety! What variety of bees are the Common bee? I take it that when Mr. Ellis's aristocratic virgin goes out on her wedding trip she treats the attention of the drones from the adjoining apiary with contempt, being only "common" drones.—TOGO

July 21, 1921

Kent Bee-Keepers' Association versus Constructive Criticism.

[10486] More than 25 per cent. of the members of the Kent Bee-keepers' Association will not agree with many of the statements made by Mr. Bryden in his letter in your issue of April 28. He asks, "Why should members find the cash so that some of those at headquarters may satisfy their vanity by posing as clever journalists?" The writer has known Mr. Bryden since the early days of the Association, when we used to meet at Crayford, and he always had the reputation for plain speaking; but the foregoing is quite unworthy of him, and doubtless by this time he regrets having made it. Mr. Bryden also says, "I am certain it is not read by more than 25 per cent. of the whole of those to whom it ('Bee Craft') is sent." I am just as certain he is wrong in his calculations. I, for one, always look forward with pleasure to the arrival of "Bee Craft," having received much valuable information and help from it, and this feeling is shared by *all* the members that I know. With regard "to something something being rotten in the state of Denmark," Mr. Bryden is one of the leading men of the Association, and should make his views known at "headquarters." It may be he has, and been outvoted; if so, this may account for his present state of mind, which appears to be somewhat rancorous. However, he must for the present bow to the majority; the curse of the present times is that the minority want to rule, and it cannot be done with advantage to any state or association.

Mr. Bryden also asks, "Why, oh! why should we help to provide a leaflet—for a

neighbouring county?" The reason is so obvious that it is needless to answer it; but the fact that Surrey has adopted "Bee Craft" as their official organ, to my mind, is strong evidence of the high esteem in which it is held, and shatters his statement that recipients "treat it in the same way that they treat advertisement circulars for pills, soaps, sewing machines, etc., i.e., burn it unopened and unread." Is there any bee journal that does not take extracts from American and other journals? It is a common practice; the "B.B.J." often does it, the majority of bee-keepers cannot afford to take every bee journal, and such extracts are generally important, and would never be seen by some.

With regard to travelling experts, I have nothing to say against them, but my experience is that I was always at business when they came. When I arrived home I was informed that he had been, and left a message to say the bees were healthy, or would soon require supering, etc., etc., things I knew perfectly well. Compare this with monthly notes in "Bee Craft"; which is the more helpful?

I quite agree with Mr. Bryden there should be an annual general meeting, for the reasons he states; many remember such pleasant occasions at Crayford; they were really enjoyable and helpful.

I consider also something more might be done in the divisions to help and interest the rank and file, periodical meetings for the reading of short papers and discussion thereon, etc., etc., especially in winter.

I am glad Mr. Bryden tells us in concluding that "it is in no carping spirit I write," because now we know.—T. F. NEWMAN Sidcup.

[We have had the above letter on our file for some time, and an apology is due to Mr. Newman for the delay in publishing it. We hoped to have had a reply to Mr. Bryden's criticisms from some responsible officials of the Kent B.K.A., which, with all due deference to our correspondent, we would have preferred, and would have published his letter also. We know Mr. Bryden well, and feel sure he would loyally accept the ruling of the majority at any meeting. However, we hold no brief either for him or the Association, but the fact that up to the present none of the officials, and only this one member of the Association have replied, appears to us to justify Mr Bryden's criticisms.—EDS.]

A Good Colony.

[10487] You may think the following worth recording:—

A strong stock of Italians on ten frames with doubling box over brood chamber containing nine standard frames sent out a swarm on June 9, weighing 8 lbs.

These were secured and hived the same evening by my wife and daughter and given six drawn-out combs and two frames of foundation. Three days later one more frame was added, and also a rack of 21 sections. On examining these yesterday, June 18, ten days after hiving, I found they had drawn out the foundation, stored about 30 lbs. of honey in the brood chamber, and filled and commenced capping the rack of sections; about 50 lbs. of honey stored by a new swarm in ten days! These had previously filled the nine standard combs in doubling box of the parent hive, and had also stored far more in the brood chamber than I cared about, *but they are very slow with the capping.*

Would you kindly state your opinion as to the desirability of extracting without waiting for the capping to be completed? Would it be safe to offer for sale?

If not capped after some time stored, would not the heat of hive ripen the honey?

My native bees were all wiped out with the prevailing terror some time ago. I have since tried Italians and find them very satisfactory and extremely gentle to handle; am beginning to forget what a sting is like. —J. H. OSBORN.

[At times the bees are a long time 'ere they seal over all the honey. If there is not a great quantity it will do no harm, but if there is a whole comb or more in this condition it is better to leave it until sealed. The unsealed honey is generally in the outside combs, if these are placed in the centre of the box, and the fully sealed ones outside, the whole will probably soon be sealed over. It is not wise to sell unripe honey, as it is likely to ferment in a short time.—EDS.]

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d. up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

Saturday, July 30, and Monday, August 1, 1921, at Lichfield.—Lichfield Floral and Horticultural Society's Show. Bee and Honey Section under the auspices of the Staffs Bee-keepers' Association. All classes open.—Schedules may be obtained from the Hon. Secretary, A. H. Perrins, 30, Tamworth Street, Lichfield, Staffs.

August 1, at Norton Sheffield.—In connection with Norton Ploughing Association. Seven Classes for exhibitors within radius of 10 miles; one Open Class for display of Honey, Wax, Mead, etc., on space 3 ft. 6 in. x 3 ft. 6 in. Prizes, open class, 30s. and medal, 10s., and 5s.—Schedules from W. Bashforth, 45, Bank Street, Sheffield.

August Bank Holiday.—Revival of Cambridge Mammoth Show. Bee and Honey Section in charge of Cambs. and District Bee-keepers' Association.—Schedules from E. C. R. Holloway, Burwell, near Cambridge.

August 2 and 3, Abington Park, Northampton.—Northants. Bee-keepers' Association, in connection with the Municipal Horticultural Society's Flower Show. Open Class. Special prizes. 1 lb. jar of honey, 1st 20s., 2nd 12s. 6d., 3rd 7s. 6d.—Schedules from Mr. B. F. Swann, 41, St. Michael's Mount, Northampton. **Entries close July 25.**

August 4, at Madresfield, Malvern.—Annual Show of the Worcestershire B.K.A. Four Open Classes. Gift Class, no entry fee, one 1-lb. bottle, prize 21s.—Schedules from G. Richings, 42, Barbourne Road, Worcester. **Entries close July 30.**

August 10, at Wye.—Kent Honey Show. Thirty classes, half of which are open to U.K. Four Silver Cups and 75 other prizes. Schedules, Mr. H. C. Chapelow, S.E.A. College, Wye. **Entries close July 30.**

August 13 and 15, Cannock (Staffs) Show.—£12 offered in prizes for Honey Classes. Concession to exhibitors to meet increased railway charges, viz., only four bottles to be shown in each class.—Schedules from J. Bird, F.H.R.S., Glenmay, Cannock.

August 20, 1921, at Ammanford.—Carmarthenshire B.K.A., in connection with Ammanford and District Horticultural Show. Silver and Bronze Medals for Members' Classes. Open Classes for Honey, Wax, etc. Good prizes.—Schedules from W. Comery, 15, New Road, Ammanford. **Entries close August 17.**

August 24, at Prestbury (Glos.).—In connection with Prestbury Flower Show. One Open Gift Class for 1-lb. bottle. No entry fee. Prizes: 1st, 10s. 6d.; 2nd, 7s. 6d.; 3rd, 5s.—Schedules from A. H. Bowen, Coronation Road, Cheltenham. **Entries close August 17.**

August 27, at Hinckley.—In connection with the Hinckley Sweet Pea and Rose Society's Annual Show. Open to all bee-keepers. 1st prize, 12s. 6d.; 2nd, 7s. 6d.; 3rd, 4s.—Schedule from A. Kimbrell, Clarendon Road, Hinckley.

August 31, at Chester.—Cheshire Bee-keepers' Association, in connection with Cheshire Agricultural Society. Several Open Classes. Good prizes. —Schedules from T. A. Beckett, St. Werburgh Chambers, Chester.

September 17 to 23.—British Bee-keepers' Association Annual Show at Grocers' Exhibition, Royal Agricultural Hall, Islington, London. Entries close September 5. Schedules from Hon. Sec., B.B.K.A., 23, Bedford Street, Strand, London, W.C.2. **Entries close September 5.**

September 21, at Altrincham.—Altrincham Agricultural Society. Largest one-day Show in England. Several Open Classes for Honey, etc. Good prizes.—Schedules from Herbert Turner, 1, Market Street, Altrincham.

Special Prepaid Advertisements.

One Penny per Word.

Trade advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1½d. per word as "Business" Announcements, Immediately under the ***Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 7s. per ½in., or 12s. per inch.***

PRIVATE ADVERTISEMENTS are only intended for readers having* Surplus Stock *to dispose of.* Driven Bees, Nuclei, *and* Queens that are reared or imported for sale, *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.

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PRIVATE ADVERTISEMENTS.

BROTHER BEE-KEEPERS.—Country Apartments, board and residence; trout fishing.—HORSLEY, Greeba Mills, near St. John's, I.O.M. r.r.12

TWO 8-FRAMED STOCKS, Italian Hybrids, 1921 Queens, price (Penna strain), £3 10s.; other, £3 3s.; box 10s., returnable.—WOODS, 11, Barham Road, South Croydon. r.115

HONEY FOR SALE, in 56-lb. tins, good quality, price 1s. 3d. per lb.—D. COLE, Amber Green, Chart Sutton, near Maidstone, Kent. r.125

HEALTHY STOCKS in good bar frame hives, 55s., complete.—NICHOLAS, Markyate, Dunstable. r.119

TWO 10-FRAME STOCKS pure Italian, 1921 Penna selected Queens, £4; also 12 Stocks Hybrids, 1921 Penna Queens, £3.—C. GIBSON, Bridge Foot Apiary, Badminton, S. Walden, Essex. r.118

FOR SALE, two good healthy Stocks Hybrid Bees, £4 10s. and £3 10s.; also two Hives, £1 and 10s.—WHITTAM, Vicarage, West Norwood, S.E.27. r.117

OVERSTOCKED.—Several strong Stocks healthy Italian Hybrids for immediate disposal. No reasonable offer refused.—HOWLETT, 138, Seaforth Avenue, New Malden. r.r.120

SURPLUS 8-FRAME STOCK, healthy, £4; three spare fertile Queens, raised June last, 7s. 6d. each; all Hybrid Italians; immediate despatch.—DR. BERNARD, "Glenizla," Upper Deal, Kent. r.122

OBSERVATORY HIVES, several patterns, complete with bees and comb. from £2. Will winter easily.—COBB, 33, Bevan Road, Plumstead. r.r.123

BEES, overstocked, 6- and 8-frame lots, 45s. and 55s.; pure Italians, 8 frames, 70s., carriage paid; box returnable.—RICHARDSON, Witchford Road, Ely, Cambs. r.124

DRIVEN BEES.—Two or three lots wanted.—Particulars, WILSON, Headlam House, Barnard Castle. r.126

FOR SALE, several strong, healthy Stocks of Bees in skeps, May swarms, plenty of stores, 25s. each; extra strong, 30s.—ALLKINS, Fiddington, near Tewkesbury. r.127

ITALIAN HYBRID STOCK, 10 frames, ready for supers, £3; Taylor Doncaster Hive (nearly new), with section rack, £1 extra.—CLUBB, Cranston, Sudbury, Suffolk. r.128

OVERSTOCKED.—A few Hybrid Stocks for Sale on 6, 8 and 10 frames, 8s. per frame; box 10s., returnable.—WRAY, Thorpe Bassett, Rillington, York. r.129

FINEST LIGHT ENGLISH HONEY, delicious flavour, 7-lb. tins, 1s. 6d. lb.; ½-cwt. lots, 1d. per lb. reduction; tins and carriage free.—GILBERT'S APIARY, 45, Anderton Park Road, Moseley, Worcestershire. r.130

HONEY, £8 a cwt.; tins free; sample 1s. First prize Grocers' Exhibition, 1912, only time shown.—A. P. WHITE, Alfriston, Sussex. r.131

FOR SALE, Hybrid Italian Stock, 10 frames. 1921 Queen, £2 10s.—WALLACE, Hedenham Lodge, Bungay. r.132

"MANAGEMENT OF BEES," by Thomas Wildman, 1768, "Female Monarchy or Government of Bees." by Rev. J. Thorley, 1744, both with copper plates; cash offers.—WALTON, Muskham, Newark. r.133

SECTIONS, well filled and sealed, for Sale.—DAVID HANCOX, Grove Lodge, Deddington, Oxon. r.r.152

3 CWT. finest Light English Honey, £24; sample 6d.—THOMAS, Causeway, Burwell, Cambs. r.153

SOMERSET RE-STOCKING COMMITTEE having decided to close down their Apiaries this year, has a number of Nuclei and Stocks for Sale specially selected strain; also Hives and Appliances. What offers?—L. BIGG-WITHER, Birdwood Wells, Somerset. r.154

PURE LINCOLNSHIRE HONEY, £8 8s. per cwt., carriage paid.—J. H. ROPER, Thorpe-on-the-Hill, Lincoln. r.92

Fertile Italian Queens. 3/6. Delivery by return. PEARSON & GALE, Marlborough.

A FEW pure fertile Dutch Queens for sale, 5s. each, post free.—J. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.

BEES FOR SALE.—Four Stocks in good hives, £4 10s. each; "W.B.C.," Lee's "Holborn," and other Hives in good condition, only require painting, from 25s. each.—COOK, Torwood, Ashford, Middlesex. r.101

PURE HOME-RAISED 1921 Italian Queens. 7s. 6d.; surplus Stocks; Geared Extractor.—HOLLINGSWORTH, Heanor. r.54

NUCLEUS. 4-frame, 1921 Italian Hybrid Queen. prompt delivery, free on rail, £2 2s.; travelling box 12s. 6d. extra (returnable).—DART, Devon Seed Stores, Barnstaple. r.110

WANTED, several 4-lb. lots Driven Bees.—Particulars, EDWIN GLOSSOP, Ambergate. r.112

FOUR strong surplus Stocks, 10 frames and full in supers, good stores, £4, carriage forward.—RECTOR, Llandyssil, Montgomery.

FIRST GRADE Light English Honey, £8 per cwt.; tins to be sent; sample 6d.—HOWLETT, "Sylvabelle," Tring. r.r.41

BOXES FOR MAKING HIVES. — Inside measurements, 20½ in. long, 17 in. wide, 12 in. deep, dovetailed and nailed corners, all ⅝ tongued and grooved boards; five boxes sufficient for two hives; all complete with lids; put on rail for 1s. 6d. each, or £6 10s. per 100.—MITCHELL "Elderslie," Branksome Avenue, Stanford-le-Hope, Essex. r.r.47

300 LBS. pure English Run Honey for Sale. heather mixture, in 56-lb. tins, at 1s. 6d. per lb.—E. R. DEBENHAM, Bladen Apiaries, Briantspuddle, Dorset. r.r.82

SURPLUS STOCK healthy Bees for Sale.—JEWITT, Hensall, Whitley Bridge, Yorks. r.r.11

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NUCLEI.—Strong Italian on 3 frames, headed by young Queens, our selected and prolific honey-producing strain, 45s., carriage paid; finest Sussex Honey, in 28-lb. tins, £9 cwt.—MISSES PALING & PILLANS, Golden Square, Henfield, Sussex. r.136

PURE imported fertile Dutch Queens, by return of post, 10s. 6d. each.—PEARSON & GALE, Marlborough. r.134

FERTILE QUEENS by return until supply is exhausted; Italian, 8s. 6d.; Hybrid, 8s.—JACK TICKELL, Bee Farm, Cheltenham. r.138

FERTILE ITALIAN QUEENS, 8s.; with 3 frames brood and covering bees, 35s.; 4 frames ditto, 42s.; Virgins, 4s.—MASOM, Grafton Regis Apiary, Stony Stratford. r.145

PURE ITALIANS on 9 frames, headed Penna's first grade Queen, £3 17s. 6d.; Hive, if desired, £1 extra; Hybrids on 8 frames, £3 (swarmed twice in June); small Stock Carniolans, Simmins', July, 1921, Queen, 30s.—24, Woodberry Grove, N. Finchley. r.139

EXCELLENT HONEY TINS, handles, bolted lids, 7-lb. size, 1s. 2d.; 14 lbs., 1s. 8d.; 28 lbs., 2s., carriage extra.—BOWEN. r.140

SPECIAL OFFER!—Famous Cotswold Queen with novel Introducing Cage, 10s. 6d.; remarkable value.—BOWEN. r.141

VIGOROUS VIRGIN QUEENS, 5s., four 18s.—BOWEN, Queen Breeder, Cheltenham. r.142

ITALIAN HYBRIDS, 6-bar Nucleus packed bees and brood, absolutely healthy, very gentle, £3.—REDDIE, Windyholme, Chislehurst. r.143

SALE, 4-frame Nuclei by return, headed by Penna, 1921 Queens direct, very strong and healthy, £2; 3-frame, 30s.; carriage paid; box free.—HEWITT, Balne Avenue, Wakefield. r.144

FOR SALE, few strong 3-frame Nuclei headed by young 1921 Queens (Simmins' strain), 30s. each; delivery free.—H. WILLIAMS, 17, Aveling Park Road, Walthamstow, E.17. q.137

PURE IMPORTED PENNA 1921 FERTILE QUEENS, heading magnificent 6-frame Stocks, 83s., carriage free; boxes 10s., returnable. Crammed with bees, sealed brood and honey. Only few available. Penna's, did you say? Good enough! Delivery by return.—ASHLEY, Lincoln House, Teddington. r.r.146

3-FRAME NUCLEI, 25s.; 4-frame, 30s.; Stocks, £3; strong and healthy; Hives from 10s.; cases 6s., returnable.—W. A. WOODS, Normandy, near Guildford. r.147

SUCCESSFUL APPLICANT for my free stock advertised July 14 was Mr. F Carter, Runwell Road, Wickford. Few more 8-frame Stocks Italian Hybrids, very strong, £4 5s., carriage paid; box 7s. 6d., returnable.—TUNMER, Chalfontis, Leiston. r.148

DUTCH BEES.—Strong, healthy Nuclei, magnificent workers, best bees for resisting disease, 35s each, carriage paid; box 5s., returnable.—ALFRED SALT, Sunnyside, Mickleover, Derby. r.149

6- TO 10-FRAME STOCKS, with young, pure Italian Queens, satisfaction guaranteed, 9s. per frame, carriage paid. Wanted, Extractor.—Particulars to R. TINSON, Sutton Courtenay, Abingdon. r.150

4-FRAME NUCLEI, £3; box 5s., returnable. In 1914 I bought some White Star Queens. Practically all the bees in my district have succumbed to "I.W.," but I have not lost a single stock.—A. A. L. SKINNER, Mickleover, Derby. r.151

DUTCH BEES IN SKEPS, just arriving from Holland.—Advertiser offers in lots of 50 skeps and upwards to wholesale dealers; delivery July, August or September.—CHANDLER, Sproxton, Melton Mowbray. r.121

1921 QUEENS.—Imported Italian, 12s.; Hybrid Italian-English, 8s. each. Safe delivery guaranteed.—OVERTON & SONS, Crawley, Sussex. r.r.155

LEE'S IMPERIAL ORANGE WALLFLOWER, invaluable to bee-keepers, 6d. and 1s. packets.—LEE, The Beeman, Burgess Hill, Sussex. r.r.156

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STOCKS from 5 frames to 40, 10s. per frame; in skeps 50s.—PRYOR, Breachwood Green, Welwyn. r.r.108

"UTILITY" QUEENS, 10s. 6d. each, can be obtained only from LEE, the Beeman, Burgess Hill, Sussex. r.r.106

ITALIAN (1921) QUEENS from Penna's.—Fertile, 12s. 6d.; virgins, 5s.; no disease; safe delivery. —WARD, 16, Church Road, West Kirby. r.r.46

ITALIAN STOCKS, 6 frames, bred from Penna's Queens, crowded bees and brood, 55s.; box 10s., returnable.—FARROW, Garage, Staplefield Grange, near Haywards Heath, Sussex. r.r.51

FINEST ENGLISH HONEY, in 28-lb. cans, 1s. 6d. per lb.; cans and carriage free.—PEARSON & GALE, Marlborough. r.14

FERTILE ITALIAN QUEENS, by return of post, July 8s. 6d.—PEARSON & GALE, Marlborough. r.q.96

SURPLUS.—Strong healthy 4-frame Nuclei, 35s., carriage paid; 5s. refunded on return of box.—H. WITT, South Ascot, Berks. r.r.68

OVERSTOCKED.—Several strong Nuclei of Italians (Bozzalla and Penna strains) for immediate delivery, 4-frame, 42s.; 6-frame, 63s.; 1921 Queens.—R. V. ROBERTS, 50, Otter Street, Derby. r.r.69

ITALIANS (acclimatised).—Queens, 7s.; Nuclei, 25s.; Stocks.—HOUSTON, Ellen Villa, Sidcup. r.77

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BALDWIN'S BEES.—Three-frame Nuclei, carriage paid, 35s.; Hybrid Queens, 8s. 6d.—THE APIARY, Bromley, Kent. q.13

PURE ITALIANS.—1921 imported Penna Queens, immediate delivery, 6 frames, 60s.; 8, 70s.; 10, 80s., carriage paid; boxes returnable.—WADHAM, 5, Gold Street, Cardiff. r.r.37

NUCLEI.—10s. less for July, see June's advt. No reduction for Queens. They are always worth more than the price charged.—ROBERTS, The Thorne Apiaries, Ninfield, Battle, Sussex. r.r.32

NUCLEI, on three Adminson semi-combs, at £4 4s., carriage paid; boxes returnable; July delivery. — BANWELL, 77, Cricklade Road, Swindon. r.r.38

QUEENS AT PRE-WAR PRICES.—Untested Laying Queens, 7s. 6d. each; safe arrival guaranteed.—BEE SUPPLIES & PRODUCTS ASSN., LTD., 39, Wandle Road, S.W.17. r.q.133

NORTHUMBERLAND RE-STOCKING APIARY —A few surplus 4-frame Nuclei, 40s.; 6-frame Stocks, 60s.; box 10s., returnable.—Apply to JAMES BALLANTYNE, Durwick, Alnwick. r.116

SUMMER AND AUTUMN RE-QUEENING.—Now is investment time for next season. False economy does *not* pay. There is but one queen heading a colony, and you can only afford to have the best: *Adminson's Selected Tested Carniolan*, 17s. 6d.; prompt and safe delivery guaranteed. r.34

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ITALIAN QUEENS, young, fertile, purely mated, disease free; safe arrival guaranteed; 8s. each Queen; special offer, four Queens £1 8s. —GAETANO PIANA, Castel San Pietro, Emilia, Italy. r.l.83

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THE

A. I. ROOT CO., Medina, Ohio, U.S.A.

Review.

Tot and the Cat., by L. and M. Wintle. Publishers, G. Bell & Sons, Ltd., York House, Portugal Street, W.C.2; price 1s., post free. This is one of a series of books for young readers, suitable for infants. These books are a great improvement on the old style of infants' reading books, with their detached and often meaningless phrases. Although the wording of these books is simple, commencing in this one with words of two and three letters only, they give a connected narrative, thus holding the interest of the little reader which can always be obtained by the telling of a simple tale, especially if connected with the life of the wild creatures they see around them.

The last chapter of the book is entitled "Mrs. Bee," who is supposed to tell the tale of her life. This is done in a simple, instructive, and interesting fashion, and, what is much to the point, there is no stretching of the imagination. There are wonders enough in the life and work of the bee about which to write without tacking on a lot of fairy tales in order to excite wonder. We can heartily commend this little book to bee-keepers who have little children. They are always interested in the bees, their hives, and their ways.

Jottings from Huntingdonshire

Mr. Ellis, of Gretna Green—romantic spot—and Mr. Trowse, of Norwich, make one feel envious. Evidently clouds have been their way and dropped their life-giving liquid. Here, apart from a few odd showers, which in no case have lasted half-an-hour, or have been heavy enough to lay the dust—we have had no rain since April. Needless to say, honey has ceased to come in, and moreover, in one or two hives is being taken down from the supers and nothing short of a soaking rain will restart the flow, and, even then, the rain must come soon. To live in the driest part of England is delightful, as a rule; but when the whole country is embraced by an anti-cyclone we are bound to suffer considerably in these parts. As one scans the landscape it is difficult to distinguish pasture fields from those of ripened corn. The crowds of meadow brown and marble white butterflies tells its own tale. Some years to net a marble white is considered, by butterfly enthusiasts, to be worth a day's outing; this year they are everywhere. Wasps are becoming a plague, and the absence of stone fruit will make them more so, where bees are concerned. One tries various experiments in the vain hope that one will succeed in keeping wasps at bay. The Swiss hive entrances, when these can be fixed, give the bees a great advantage. One notices the bees do most of their foraging between six and nine in the morning and between these hours they also go and drink from the fish ponds which are not all dry. It is most interesting to note how some bees do better than others. This year the goldens are not giving a very good account of themselves as regards surplus honey, but, as Mr. Kettle relates, are past mistresses in repelling wasps. The banded Italians have done well, and are well master of the wasps. The Dutch have been excellent, true they keep an unusual number of guards at home to repel wasps, yet they have been ever busy so long as an ounce of nectar remained to be gathered. Not one of my Dutch stocks in large, bar frame, hives has swarmed this season. Now then, ye Dutch cursers, what do you think of that? True, the Dutch stock in skep has thrown a swarm or two, one expected that. Skep swarms are always good, and skep-raised queens are unsurpassable. If you want good swarms, headed by top-hole queens, don't discard a stock or two in skeps. It is strange the attraction a skep has for bees. I remember one stock of bees, hybrids, which persistently refused to enter the supers, and, of course, as persistently continued to swarm. On placing queen-excluder over the brood chamber and planting a skep on the top after covering all vacant places around, the bees went up straight away and filled the skep twice during the season.

The Holmswood bees, in the early part of the year, did amazingly. The honey they gathered in May and June was wonderful, they, however, slackened considerably as the drought made its influence felt, and what honey they gathered was used to load up the brood chamber. As for the hybrids, they seem to have plodded on the whole of the time, and are great sinners in bringing in honey dew.

It is amusing what some people do, or do not do, where bees are concerned. A young lady besought me to go and see what was amiss with her bees. She had secured a swarm in the early part of the year, and assured me, had hived them on ten frames of weed foundation, bought ready fixed from the makers. She had read a book all about commencing bee-keeping, and had followed instructions, but she was sure something was amiss, and was afraid to investigate. "The bees go in and out of the roof of the hive," she said, "and never seem to use the proper entrance at all." Directly I lifted the roof I knew what the trouble was. She had filled the brood chamber with frames of weed truly, and had introduced the bees, but had failed to use quilts. The bees therefore had clustered in the roof space and built up their colony there.

The good lady felt sure it didn't say anything about quilts in her book, but on referring found she was mistaken. Experience makes f——; no, I won't say that—wise women wiser.

To those good people who are wending their

way here to a demonstration on August 10, please note that I am arranging that in every hive there shall be a fault, and to encourage observation I want them to bring their note-books and jot down what they observe to be amiss with each hive opened. Good bee-keepers will easily detect, and the object of demonstrations is to help one another to attain perfection. Perfect bee-keeping may not be attained in our day and generation, but we can build a solid foundation, more or less perfect, on which the rising generation can build.—E. F. HEMMINGS, Steeple Gidding.

North Cheshire Notes.

At last we have had a little welcome rain, though not nearly so much as we want, but it has revived the clover roots, and made them send forth a second crop of blossom, in which the bees are revelling.

The honey flow has been surprisingly good considering the prolonged drought, and so far I have not heard of any disease in this district. I have noticed bees on one or two occasions very busy on the flowers of the Great Hairy Willow-herb (*Epilobium hirsutum*), which grows profusely hereabout. I have noticed them on other varieties of willow-herb, but not so much as on the first mentioned. There has been a profusion of blossoms this year, but all short-lived owing to the drought.—D. J. HEMMING, Appleton, Cheshire.

Bee Fever.

A SEMI-SERIOUS SURVEY.

I have recently recovered from an attack of bee fever, and am wondering whether everybody who commences bee keeping, with that ardour which seems to be inseparable from the pursuit, exhibits the symptoms of that delirious state which appears to be so widely indicated in the technical literature and the appliance makers' catalogues of the day.

My own recollections of that hectic state are still fairly clear, and remind me of similar emotions experienced in the days of my extreme youth, when stamp collecting, fret-work, and batting averages were subjects on which I was recognised as an authority.

I suppose the trouble is that a certain amount of elementary knowledge must be acquired at the outset, and that it is usually culled from written works, in which the reader becomes so engrossed that instead of being content with a little *practical* knowledge, he so often forsakes his useful "handbook"—subscribes to bee-keeping periodicals—plunges into pretentious text books, and joins an association, which, if not already moribund, may bring him into touch with other infectious cases, perhaps even more advanced than his own, and so give the malady fresh impetus.

By this time the mischief is done; the beginner now finds himself drawn into a whirl of silly controversy, which to his fevered mind appears to be of vital importance. He loses all sense of perspective, dreams of requeening his stocks every week—thinks that every exhausted bee is a "crawler"—quite possibly "does not believe" in feeding bees, as it "makes them lazy"!—talks of the "colour" of his bees.

Perhaps it is not his fault; he is a victim of influences of which as yet he knows nothing. When he becomes convalescent he will derive much pleasure from perusing any appliance makers' catalogue, and marking those items which are intended only for "patients," and never meant for real bee-keeping. Let any level-headed bee-keeper try this experiment; he will be vastly entertained.

What is an ordinary individual to think when he reads, for instance, that queens reared in nuclei are inferior to those reared "under the swarming impulse"—to use the hackneyed old phrase—and then in another book, or even on the next page of the same periodical he finds that the advice is precisely contrary? The same may be said of double or single-walled hives, the use of queen excluders, etc., etc. In fact, it would be easier to count the non-controversial matters in connection with bee-keeping than to attempt to set out the crowds of trivial little matters which excite such babel that the Minister of Agriculture hinted in the House of Commons that bee-keepers should agree among themselves before coming to Parliament for assistance!

Are bee-keepers then a race apart? Or what is the reason why so much twaddle can be written and absorbed? Personally, I think that the governing factors may be mentality, prejudice, and, arising out of the two, commerce.

The "mentally" afflicted are the genuine bee-fever patients. Bee-keeping is probably their first venture into natural history, and unlike most scientific, or pseudo-scientific subjects, is found to be unexpectedly interesting, even in its earliest stages. These people are usually well educated, and devour the often inflated text-books and treatises with such spellbound attention that they generally lose sight of the danger point where practice ends and theory begins, and, forming views of their own, they begin to discourse on the merits or demerits of a thousand and one little things that do not matter two straws to anybody, and least of all to the bees themselves. Incidentally, they fall an easy prey for the appliance maker and queen rearer, who carefully and unobtrusively fan this flame of enthusiasm.

The "prejudice" factor probably emanates from the yeoman class of bee-keeper, who has no inclination to read, and none to learn. He is, as likely as not, governed by tradition so invincible as to become almost a superstition. They "don't believe in feeding—skeps are good enough for them—disease! a new fangled idea! Bees must die sometimes!" Their voice may not be loud, but their influence is obviously reactionary.

As to the "commercial" side—well, people have to make their living, and they are no worse than makers of ladies' hats!

The real fact is, as I truly believe, that most of these passion-raising topics simply *do not matter*. The amount of exact knowledge of bee lore is measurable, certainly, but the amount of pure guesswork and infatuation which is served up as knowledge is not.

Fortunately, however, the bee is an adaptable insect, and is able to show a remarkable indulgence for the idiocyncrasies of its so-called keeper. If bees were less sensible, bee-keeping would indeed be a difficult business for some!—P. G. HURST.

Extracted Honey from Virgil.

Just as Virgil 2,000 years ago unfolded to Mæcenas the wondrous life and habits of the honey bee, so we, who live in a very materialistic age, find equal pleasure in communicating our little experiences under the same magic spell.

To what purpose may we truly be thankful in this season of continuous sunshine for

"The gifts of heav'n,
Aerial honey, and ambrosial dews."

On the scientific side of bee-keeping we have advanced very materially since the days when Virgil penned his wonderful tribute to our tiny winged friend, whose palace is no longer built "with twisted osiers or with barks of trees." But, unused to seasons of drought and cloudless summer days, we are apt to ignore the appropriate counsel to the old bee-keepers in Naples to place their hives where the bees may find some relief from the dry heat:—

"But near a living stream their mansion place,
Edged round with moss and tufts of matted grass;
Then o'er the running stream or standing lake
A passage for thy weary people make:
With osier floats the standing water strew;
Of mossy stones make bridges, if it flow."

One thing, however, I must confess. I have established my apiary close to a yew hedge, in spite of the advice of the Latin poet not to place them:

"Or where the yew, their pois'nous neighbour grows."

Furthermore, let it be said that one swarm recently settled on this said yew hedge, although it must be admitted the bees developed a particularly vicious mood for such an occasion, and visited their wrath upon the unprotected parts of the writer; but peace now reigns, in spite of the yew hedge.

When I undertook the keeping of bees I knew not the sacrifices I should be called upon to make, for I now find, upon reading my "Georgic," that I am bidden:

"Nor roast red crabs to offend the niceness of their nose."

In deference to the peculiar sense of smell possessed by my bees, I suppose I must enjoy the luxury of roasted red crab surreptitiously by repairing to a quiet restaurant in a neighbouring town when the wind is in a favourable quarter.

The martial qualities so finely described by Virgil are not lacking in my particular bees, but instead of

"In the fields of light
The shocking squadrons meet in mortal fight,"

they reserve their savage, penetrating thrust for the unsuspecting owner who dares to remove a rack of completed sections or shallow combs:

"To reap the product of his labor'd ground
And squeeze the comb with golden liquid crowned."

Given such a wealth of poetic fervour, we may well pass over with a smile those lines which tell us how the bees:

"Gather children from the leaves and flowers,"

and

"Thus make they kings to fill the regal seat;"

or

"Thus through the race of life they quickly run,
Which in the space of sev'n short years is done."

There is one method of handling which we may claim to be very, very old, for it was particularly enjoined by Virgil—"The Smoker." Some practices, which we may assume to be modern, are, after all, as old as the hills.

We are applying the great wisdom of our Universities to the discovery of the cause and remedy of "Acarine." Who dare say that the cure is not to be found in that wonderful flower

"That grows in meadow ground, Amellus called, and easy to be found,"

the root of which Virgil prescribes for sick bees.

Much wisdom as well as poetry may thus be discovered in the classic lines of the great Latin poet, whose inspiration was so warmly touched to honour our friend the honey bee

S. R. H

A Narrow Escape.

The harvesters were reaping the field of corn adjoining the end of my garden, when, at 9 p.m. on July 25, whilst watching proceedings over the fence I was accosted by one of the harvesters with a request for a kettle of boiling water. "There is a wasps' nest out here in the corn that has been worrying us all day," said he.

Being suspicious, I went over to inspect and discovered a small swarm of Italians clustered at the roots of the standing corn on the edge of the square remaining to be cut. The next round of the reaper would have cut right into the cluster.

A skep was soon fetched, the corn cut away with scissors down to the cluster, and the skep placed right over it. A little smoke soon drove them up into the skep, and by 10 p.m. they were safely hived.—B. J. F.

Bournemouth and District Bee-Keepers' Association.

The monthly meeting of the Bournemouth Bee-Keepers' Association was held in the beautiful grounds of their President, F. J. Bell, Esq., close to the sea at the extreme end of Bournemouth Borough, overlooking the fine old Priory at Christchurch. Mr. Bell is justly proud of his bees; he has to use steps to get at the cover of some of the hives. Three of them will pan out close on 200 lbs. of honey. He has also a very fine observation hive, given him by a friend; this has a hipped and gable roof, which he has painted to look like the roofs of houses in Italy. He calls it the "San Marino" hive; it is lifted up on to a stand, so that each side can be opened and bees seen on all the ten combs; he has them filled with Italian bees. His fruit trees show the value of keeping bees, as his apple and pear trees were loaded. After entertaining all the members to a sumptuous tea, Mr. Tomlinson gave an address on "Apiculture." A testimonial was given to the late Secretary (Mrs. Gordon), who had worked the membership up to nearly 100. Mr. Bell spoke of the pleasure it gave Mrs. Bell and himself that so many had accepted his invitation to see his bees, and he hoped that the Association would go on to greater achievements; anything he could do he would to help on the work of the Association.—J. J. K.

Show at Larkhall.

The competition arranged by the Somerset Bee-Keepers' Association (Mrs. Wallace, Newbridge Hill, local hon. secretary) was held in a separate marquee, but the show was disappointing for the reason that, owing to the high railway costs, the big makers of appliances found that exhibiting was out of the question, and a similar reason caused many who were expected to compete to be absentees. As a matter of fact, there were practically more prizes than competitors, and it was decided to withhold a W.B.C. hive, which was offered as a prize, until next year, owing to the smallness of the competition. The honey shown was, on the whole, very good. The sections were fair for the most part, but the Italian bees, now so general in this country, do not make sections as the old English black bees used to do. The lack of rain has not been without its effect. Mrs. Wallace's three-frame observatory hive was a great attraction, and the exhibits also drew a good deal of attention. There is a revival of interest in bee-keeping, and now that the Government, the Somerset County Council and other authorities are supporting it this industry may gradually regain its old proportions. In another part of the grounds was a demonstration tent, in which Mr. Biggwither, of Wells, gave lectures and answered questions. The results of the competitions, judged by Lt.-Col. H. F. Jolly and Mr. L. E. Snelgrove, were :—

12 1-lb. bottles of extracted honey (prizes given by Earl Waldegrave): 1, Mr. Hayward, Trowbridge; 2, Mr. Litman, Castle Cary; 3, F. Hayward, Trowbridge.

1-lb. bottle of honey, not granulated (prizes given by Lady Woolfryes): 1, F. Hayward; 2, W. Hayward; 3, Mr. Greedy, West Monkton, Taunton.

1-lb. sections of comb honey (prizes given by Lady Woolfryes): 1, Mrs. Kettlewell, Harptree House; 2, W. Withycombe, Bridgwater; 3, John Purnell, East Harptree.

Best exhibit of an educational and scientific nature relating to bee-keeping (prize given by Mr. L. E. Snelgrove): 1, E. Walker, Street, for a honey chart.

Collection consisting of six sections and six bottles: 1 (silver medal of the British Bee-Keepers' Association), W. Withycombe; 2 (B.B.K.A. bronze medal), Mr. Litman; 3, P. Horstmann, Bath.

Exhibit of pure bees' wax: 1, Mr. Litman; 2, Mr. Greedy; 3, Mr. Withycombe.

Observatory hive with bees: 2, W. Withycombe.

Two shallow sections of comb honey: 1, Mrs. Kettlewell; 2, Mr. Litman; 3, Mr. Jolliffe, Larkhall.

Exhibit of honey products: 1, Mr. Greedy; 2, W. Withycombe.

Three bottles of granulated honey (prizes given by Mr. S. A. Bradbury, of Taunton): 1, Mr. Withycombe; 2, Mr. Greedy.

Six 1-lb. bottles of extracted honey (light or medium): 1, Mr. Withycombe; 2, Mr. Litman; 3, Mr. Greedy; 4, Mr. Jolliffe.

Best six bottles of dark honey: 1, Mr. Withycombe.

NOVICE CLASSES.

Open to members, other than experts, who have not previously won a prize at any of the Association's shows.

Three 1-lb. sections of comb honey (prizes given by Mrs. Wallace): 1, Mrs. Kettlewell; 2, J. Purnell.

Three 1-lb. bottles of extracted honey (prizes given by Mrs. Wallace): 1, P. Hortsmann; 2, Mr. Jolliffe.

(Communicated.)

Surrey Bee-Keepers' Association.

The annual exhibition was held at Surbiton, in connection with the Tolworth Horticultural Society. Twenty-four silver and bronze medals were offered, also certificates of merit and money prizes to the extent of over £10. A special silver medal, presented by Kingston Division. President Sir J. Colman's silver rose bowl for Class 1, to be won by holder five times in all; first year winner, J. Silver, of Croydon.

Hamlin Cup (presented by Mr. and Mrs. Hamlin), to be held by exhibitor who succeeds in winning most points. To be won by holder three times in all. First year, 1920, J. Fooks, Normandy, near Guildford.

1921.—J. Fooks, points 3 1/6; 2nd, M. J. Lamboll, of Chiddingfold, 2 2/3: 3rd, Miss Jonas, of Guildford, 2½.

There were 56 exhibitors and 193 entries. The whole of the honey was good and the competition very keen.

The judges were Messrs. J. Herrod-Hempsall and A. Richards, who made the following awards :—

Class 1. Six 1-lb. sections of honey (free from heather), gathered during 1921.—1st

prize, President's challenge trophy and silver medal, J. Silver, of Croydon; 2nd prize, bronze medal and 2s. 6d., M. J. Lamboll; 3rd prize, British B.K.A. certificate and 2s., J. Bowden, of Surbiton.

Class 2. Six 1-lb. sections of heather or heather blend honey, gathered during 1920 or 1921.—1st prize, bronze medal and 3s. 6d.. Miss Unwin, of Churt; 2nd prize, certificate of merit and 2s. 6d., J. Fooks; 3rd prize, 2s. 6d., M. J. Lamboll.

Class 3. Three shallow frames of honey for extracting, gathered during 1921.—1st prize, silver medal of British B.K.A., W. J Cooper, of East Molesey; 2nd prize, bronze medal and 2s. 6d., F. A. Brown, of Guildford; 3rd prize, certificate and 2s., M. J. Lamboll.

Class 4. One shallow frame of honey for extracting, gathered during 1921.—1st prize, special silver medal, presented by Kingston Division, H. A. Wrighton, of Stoke d'Abernon; 2nd prize, bronze medal, H. J. Meed, of Horley; 3rd prize, certificate and 2s., E. G. Waldock, of Guildford.

Class 5. Six 1-lb. jars of medium coloured extracted honey (free from heather), gathered during 1921.—1st prize, silver medal, A. Seth Smith, of Cobham; 2nd prize, bronze medal, Mrs. Mumford, of Redhill; 3rd prize, certificate and 2s., G. C. Bullen, of Cobham. Silver medal presented by Mrs. Fawcett.

Class 6. Six 1-lb. jars of light coloured extracted honey (free from heather), gathered during 1921.—1st prize, silver medal, Miss Jonas; 2nd prize, bronze medal, H. J. Meed; 3rd prize, certificate and 2s., C. Monk, of Kingswood. Silver medal presented by W. Fawcett, Esq.

Class 7. Six 1-lb. jars of extracted heather or heather blend honey, gathered any year.—1st prize, silver medal, M. J. Lamboll; 2nd prize, bronze medal and 2s. 6d., E. G. Waldock; 3rd prize, certificate and 2s. 6d., J. Fooks. Silver medal presented by Guildford Division.

Class 8 Six 1-lb. jars of granulated honey (free from heather), gathered any year.—1st prize, bronze medal and 2s. 6d., J. Fooks; 2nd prize, certificate and 2s. 6d., G. C. Bullen; 3rd prize, 2s. 6d., A. Seth Smith.

Class 9. Six 1-lb. jars of granulated honey (heather or heather blend), gathered any year.—1st prize, bronze medal and 2s. 6d., Miss Unwin; 2nd prize, certificate and 2s. 6d., M. J. Lamboll; 3rd prize, 2s. 6d., J. Fooks.

Class 10. Wax, not less than 1 lb. (may be in one to four pieces).—1st prize, bronze medal of British B.K.A., A. T. Hedger; 2nd prize, certificate and 2s. 6d., Mrs. Mumford; 3rd prize, 2s. 6d., E. G. Waldock.

Class 11. Three 1-lb. jars of extracted honey (not granulated), gathered during 1920 or 1921.—1st prize, 7s. 6d., Miss Jonas; 2nd prize, 5s., Miss Pridham, of Cobham; 3rd prize, 2s. 6d., Messrs. Farmer & Potts, of Kingston. All three prizes presented by Messrs. C. T. Overton & Sons, to be taken in goods.

Class 12. Three 1-lb. sections of honey, gathered during 1921.—1st prize, 7s. 6d., H. Greenfield, of Farncombe; 2nd prize, 5s., Miss Jonas; 3rd prize, 2s. 6d., Mrs. Herbert, of Guildford. All three prizes presented by Messrs. James Lee & Son, Ltd., to be taken in goods.

N.B.—Classes 11 and 12 were open only to members who have never taken a prize for honey at any show whatever.

The above classes were open only to members of the Surrey Bee-keepers' Association.

OPEN TO GENERAL COMPETITION.

Class 13.—Six 1-lb. Sections of Honey (free from heather), gathered during 1921: 1st prize, silver medal and 7s., C. W. Dyer, of Newbury, Berks.; 2nd prize, bronze medal and 5s., J. Silver; 3rd prize, certificate and 3s. 6d., B. F. Suckling, of Windsor.

Class 14.—Six 1-lb. Jars of Light Coloured Extracted Honey (free from heather), gathered during 1921: 1st prize, silver medal and 7s., C. W. Dyer; 2nd prize, bronze medal and 5s., P. J. North, of Cambridge; third prize, certificate and 3s. 6d., Mrs. Hines, of Twyford, Hants.

Class 15.—Three Sections of Honey: 1st prize, 7s. 6d., J. Fooks; 2nd prize, 5s., J. Bowden; 3rd prize, 2s. 6d., B. F. Suckling. All three prizes presented by Messrs. James Lee & Son, Ltd., to be taken in goods

Class 16.—Three 1-lb. Jars of Extracted Honey: 1st prize, 7s. 6d., F. C. Alexander, of Wimbledon; 2nd prize, 5s., W. Fawcett, of Guildford; 3rd prize, 2s. 6d., B. F. Suckling. All three prizes presented by Messrs. C. T. Overton & Sons to be taken in goods.

The exhibits in these two classes will be sold, and the proceeds given to the Surbiton Cottage Hospital.

Class 17.—Collection of Cut Flowers usually visited by Honey Bees, in not more than six vases: 1st prize, silver medal, N. W. Fawcett, of Guildford; 2nd prize, 5s., Miss M. Seth Smith; certificate, v.h.c., Miss Pridham. Silver medal presented by Mrs. Wigley; 2nd and 3rd prizes presented by B. Carter, Esq.

A list of flowers, which may be wild or cultivated, must accompany each exhibit.

Class 18.—Any Original Appliance, or anything new appertaining to Bees or the Apiary: 1st prize, bronze medal, Rev. H. Newman, of Ashford, Kent; 2nd prize, certificate, E. H. Taylor, Ltd., of Welwyn, Herts; 3rd prize, F. A. Brown & Co., of Guildford.

Class 19.—Cakes, Confectionery, or other useful products made from or with Honey: 1st prize, bronze medal, Miss M Gayford, of Cobham; 2nd prize, certificate and 3s. 6d., Mrs. Waldock, of Guildford.

Class 20.—For the largest and best Collection of Hives and Appliances. Price to be fixed to each article and to include every portion of the exhibit staged:—1st prize, silver medal and 30s., Jas. Lee & Son, Ltd., of Uxbridge; 2nd prize, bronze medal and 20s., F. A. Brown & Co.; 3rd prize, certificate and 15s, C. T. Overton & Sons, of Crawley. (*Communicated.*)

Ilford and District Bee-Keepers' Association.

On Saturday, July 23, an examination for preliminary certificates was held at the newly-established educational and experimental apiary of the above Association, in the Valentines Park, Ilford. This new branch of the Essex Bee-keepers' Association soon realised that if any progress was to be made in bee-keeping in the district something more than a monthly meeting and lecture during the winter months was needed, and it became obvious that practical work and an experimental apiary was a necessary part of any educational programme. The District Council were approached, and the Parks Committee asked that the executive should meet them, and after conference together, they (the Council) very generously offered the use of an old orchard at a nominal rental. This forms an ideal spot, and it is hoped that in the future bee-keepers in the surrounding district will avail themselves of the opportunity it offers. A series of lectures and demonstrations have been given during the season, and many have expressed surprise and interest at the ease and simplicity of manipulation when properly conducted. The Association is fortunate in having several experienced and expert bee-keepers among its members, who have divided its district into sections, thus help is readily attainable when needed. The Association hope for more and better bee-keeping in the district in the future. — H. STROUD, Secretary, Barley Lane, Ilford.

Yorkshire Bee-Keepers' Association.

The annual honey show was held at the Yorkshire Agricultural Show, Leeds, on July 20, 21, and 22. The weather was perfect, and the bee-shed and demonstration tent were patronised daily by thousands of visitors. The honey classes were not numerous.

This has been a poor season for bee culture, the prolonged drought having had the effect of drying up the honey in the flowers, and the white clover, from which much honey is usually derived at this season of the year, is a disastrous failure. Many bee-keepers have not been able to obtain a single section, and the result is seen in two ways. In seven out of the nine classes there is only one exhibitor—Mr. Wm. Dixon, of Leeds—and nearly all the samples on view are not this season's honey at all. Some of the heather honey is two or three years old. Rather better competition is seen in two out of the three Yorkshire classes. Mr. Dixon has matters his own way in the open classes, and he wins with exhibits of several different types of frame hives. Lectures and demonstrations on the management of bees were given by the Rev. H. T. Hutchinson, chairman, Yorkshire Bee-Keepers' Association.

HIVES, HONEY, ETC.

Class 129.—Complete Frame Hive, the selling price above 32s. 6d.: 1 and 2, W. Dixon, 27, Central Road, Leeds.

Class 130.—Complete Frame Hive, the selling price not to exceed 32s. 6d.: 1, W. Dixon.

Class 131.—Six Sections Heather Honey: 1, W. Dixon.

Class 132.—Twelve Sections Honey, other than heather: 1, W. Dixon.

Class 133.—Six lb. jars Extracted Heather Honey: 1, W. Dixon.

Class 134.—Twelve lb. jars Extracted Honey, other than heather: 1, W. Dixon.

Class 135.—Twelve lb. jars Granulated Honey: 1, J. C. Hall, California, Howden; 2, W. Dixon.

Class 136.—Best Exhibit of not less than 3 lbs. Wax, produced by exhibitors' own bees: 1 and 2, W. Dixon.

Class 137.—Six Sections of Honey: 1 and bronze medal, J. C. Hall, California, Howden; 2, F. P. Rawling, Deneholme, Upper Poppleton, York; 3, J. Coates, Weetwood, Headingley, Leeds.

Class 138.—Six lb. jars Extracted Honey: 1 and silver medal, Rev. H. T. Hutchinson, Sancton Vicarage, Brough; 2, J. C. Hall, California, Howden; 3, J. Coates, Weetwood, Headingley, Leeds.

Class 139.—Six lb. jars Granulated Honey: 1, J. C. Hall, California, Howden.

ANNUAL MEETING.

The 34th annual meeting of the Yorkshire Bee-Keepers' Association was held in the Council Room, Yorkshire Agricultural Show Ground, at Leeds, on July 22. The Rev. H. T. Hutchinson, chairman, presided over a numerous and representative gathering.

His Grace the Earl of Harwood, K.C., was re-elected president, and vice-presidents were also re-elected. In his report, the secretary stated that the membership had largely increased, and the Beverley and District Bee-Keepers' Association had been affiliated, and the year's working showed a balance in hand of £4 5s. After a discussion on the shelving of the Bee Disease Bill, it was unanimously voted that the following resolution be sent the Board of Agriculture:—"That the Yorkshire bee-keepers deeply regret the postponement by the Government of the Bee Disease Bill, and trusts that it will be brought forward again at the earliest opportunity for the welfare and furtherance of the bee-keeping industry in the county."

With a view of increasing the entries in the honey classes next year, it was decided to approach the Yorkshire Agricultural Council to extend the closing of the entries until July 1, instead of June 11.

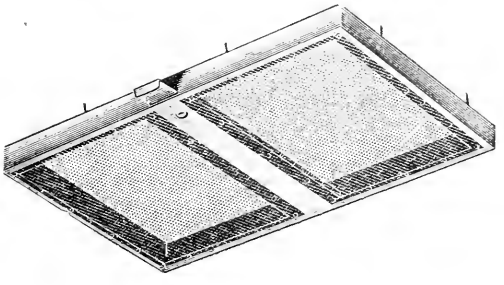
The following Committee was elected:—Rev. H. T. Hutchinson, chairman; Messrs. Dr. Hanley (Leeds University), Anstey, H. Curry, W. Dixon, F. Rawling, and F. A. Woolley; Mr. A. C. Jemeison, organising secretary; and hon. secretary and treasurer, W. E. Richardson. (*Communicated.*)

Novelties for 1921.

THE A.Z.A. SEMINUCLEUS AND INTRODUCING CAGE.

This registered appliance, which is already familiar to users of metal combs is now being popularised generally, since it has sufficiently proved to be quite workable with wax combs, with but slight modification. It is likely, therefore, to prove very useful for summer and autumn re-queening, and for raising nuclei next season, or even this season should present subtropical weather be prolonged.

It consists of a wooden frame provided with "nail pins" for insertion in the frame of an emerging brood comb, and is closed on the outside with perforated zinc nailed all round and centrally to a wooden divider, which is provided with a queen introduction hole with a sliding shutter. The accompanying illustration sufficiently explains its details.



SEMI-NUCLEUS AND INTRODUCING CAGE.

With metal combs, all that is required is to select one with rapidly emerging brood, shake the bees off inside the brood chamber, and momentarily cover, taking the brood comb to a room with a favourable temperature (and away from robber bees) for attaching the cage. This is adjusted to the frame, and then the nail pins are pressed, with the grip of both hands, into the frame. This done, the queen is then introduced through the special hole which is afterwards closed, and the comb with the attached cage is returned to the hive, and placed in the centre of the brood nest. By close-spacing two frames, the hive is made capable of accommodating its full complement of frames plus the cage.

It is clear that the capped brood will not be chilled, since apart from its favourable position, the other surface of the comb will be covered with bees. It is clear also that a small nucleus may be started in this way when the independent brood emerges, the whole comb with brood, queen, and covering bees then removed to an independent hive, and re-enforced later. A further advantage is that the old queen, if present, may be left to exercise her function until it is decided to get rid of her. To release the queen, the shutter to the queen introducing hole need just be removed—an operation which means little, if any, disturbance. At a later period, under favourable circumstances, the hive is opened, the cage removed with any hive tool available (an easy operation) and the combs readjusted.

With Wax Combs, the only difference lies in using two cages, one on either side, for raising a nucleus. For queen introduction one cage is sufficient, the space around the comb and holes, if any, being stuffed with a good thickness of stiff paper which is not easily gnawed by the bees, or, better still, with cotton wool or with soft linen.

The appliance is light and handy, and lends itself to several uses. It has the advantage of being adaptable for use both within and above the brood chamber of a strong colony, as required, of being exempt from any obstructive features, and of being adaptable to liberating an imprisoned queen without opening a non-supered hive when this is done. Unlike the Jay Smith introducing cage (which is popular in America), it does not require to be pushed in the comb itself, which latter practice means the injury of brood and comb. It is further a help for starting the formation of a nucleus, and is eminently practical. It will readily apply to any corresponding frame, with the exception perhaps of a very poor frame that should have never been marketed. It is manufactured by Messrs. James Lee & Son, Ltd., and is available at the following low prices: Standard size, 2s. 6d. (postage 1s.); Deep Standard, Simmins or Langstroth size, 3s. 6d. (postage 1s. 3d.). It merits, therefore, universal use.

Questions, &c., for Bee-Keepers for Self-Examination.

(Students are recommended to write their answers, and check them afterwards by reference to books.)

545. How may a colony of bees which has established itself in a common box be transferred to a frame hive?

546. How are the drones killed by the bees?

547. Account for the differences in the colour of honey.

548. When bees themselves supersede a queen, at what time in the year is this mostly done?

549. In what circumstances is it desirable to make efforts to prevent swarming?

550. How can bees be shaken off a comb, with safety to the comb?

551. What plan can be adopted to secure that all the honey brought in from some particular honey-flow is put into the supers?

552. Explain exactly, and separately, the terms (*a*) "Isle of Wight" disease, (*b*) Nosema apis, (*c*) Acarine disease, and (*d*) Tarsonemus woodi. J. L. B

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Clipping Queen's Wings.

[10488] I wonder whether any of your readers who have tried the experiment of clipping the queen's wings would give the result in your journal of their experience during the swarming season?

I have an out apiary, and have decided next season to clip most of the queens. Would it not be a good idea *every week* to write your seasonable hints? Even the old hands at the game like to hear what the Editors of the BEE JOURNAL have to say and advise.

By the way, what is your opinion of clipping queens and thus making sure of the swarm?

Provided I can secure it, I prefer my stocks to swarm; it livens them up I am certain.—H. K. SPRINGETT.

[Opinions as to the utility of clipping the queen's wings vary. The usefulness of the plan depends on circumstances. In an apiary where the bee-keeper, or other person, is constantly near to hear when a swarm comes off, it is a good thing, as the queen being unable to fly there is little risk of losing the swarm. Should the swarm and queen leave the hive when no one is about the queen is likely to be lost and the bees return to the hive. We know the theory is that the bees stay with the queen, but, like many other theories, it does not always work out in practice, and a few days later the swarm again issues with a young queen, who is more able to fly away than the old queen if she had not been clipped Sometimes the bees object to a mutilated queen and supercede her. Clipping is a matter to be decided by the individual bee-keeper. For ourselves, we prefer not to clip the wings. We are sorry we cannot give seasonable hints every week. Conditions vary so much in different parts of the country. We can only give general hints, and for some weeks now they would simply have been a repetition week by week.—EDS.]

Stings.

[10489] Re 10,468. I would caution bee-keepers sensitive to stings to go slow on the ammonia remedy referred to. The effect on a seasoned bee-keeper is far from efficient in respect of the pain produced by a solitary sting on a normal constitution. On the other hand, ammonia produces a disagreeably noticeable swelling and inflammation which would not occur at all if the wound was left without any treatment. The unseasoned bee-keeper could not expect to come off nearly so well as the veteran either way, and in the case of a severe attack from the bees, ammonia would be a good thing to avoid.

Formic acid in a laboratory test tube is a very different thing to formic acid injected into the tissues. The human body is more than a test tube; it is a laboratory in itself—an active one, too—and deals promptly with all impositions of foreign matter up to its capacity. That means the neutralisation of an injection of formic, or any other acid, is not the easy problem of the application of an alkaline substance as in the case of a test tube demonstration.

A year or so ago the Editor of the *American Bee Journal* stressed the inaccuracies of the lay Press when dealing with bee affairs. This seems to be such a case.—M. ATKINSON, Fakenham, June 28, 1921.

Honey Labelling.

[10490] A neighbouring bee-keeper told me last week that he could not find a market for his honey in Hastings, because of the large amount of Colonial and faked honey on sale there.

Why cannot the Board of Agriculture help us by getting a short measure passed similar to that which forces the grocer to label plainly and clearly the margarine he might (by mistake only, of course) sell for butter?

The farmer is protected, why not the bee farmer? I gave, some time ago, my criticism of the Kent Bee-keepers' Association, and the only reply called forth was one strongly in support of my contention by Mr. George Bryden, and I do not know why I and others cannot be protected from the unfair competition of those who deal in faked and Colonial honey without joining associations which may, or may not, issue honey labels for its members.—HERBERT NEWMAN Kenardington Rectory, Ashford, Kent.

Two Queens in a Hive.

[10491] It would appear either the season is abnormal or that the accepted *theory* that only one queen is tolerated in a hive is wrong. On Tuesday, June 28, in company with Mrs. Hodson, of Private Road, Enfield, I visited the apiary of Dr. Matthews, Great Northern Hospital, Winchmore Hill. While examining a stock, Dr. Matthews exclaimed that he saw two queens on the comb. On examination this proved correct, two very fine yellow queens were found, both young, vigorous, and fertile, and both laying on one side of the comb. The hive was carefully gone through, and no trace of a recent queen cell could be seen. One queen was removed and placed in a four-framed nucleus. Now either this is merely a freak, and as such will not often occur, or it may be that more careful examination will reveal the fact that two queens may live together. Often in manipulation it will be found the queen has apparently run over. Personally, having noted the queen once, I have been apt to

think she has run over and let it go at that. For the future in such cases on sighting the second time I shall box her and go back over the combs and look for the understudy —G. JAS FLASHMAN.

An Amusing Extract.

[10492] SIR,—I enclose extract from the *South Wales Argus* of June 10, thinking it would amuse you, and perhaps be worth publication.—HENRY GEORGE ROGERSTONE.

Swarm of Bees.—A swarm of bees settled on the branches of a tree on the green in front of the Castle Works offices on Thursday afternoon Mr. Harry Hyland, who lives at Groesllanfro, who is a cultivator of bees, was informed of their arrival, and he immediately set about gathering them. This he accomplished within an hour, before a large number of onlookers, and the bees were safely conveyed to his hivery.

["Cultivator of bees" is quite a new description of a bee-keeper, and "hivery" is a distinctly novel name for apiary, though not at all a bad one; in fact, when the bees in an apiary are all dead it would be more appropriate to call it a "hivery" than an "apiary."—EDS.]

Preserving Queens.

[10493] Referring to your notices to correspondents, page 312, in reply to "M. T. T." (Enfield), I beg to state, for the benefit of those of your readers who do not know of it, that queens in mailing cages may be kept indefinitely in excellent condition if placed direct on the top bars of shallow extracting frames of a colony working in supers. The young bees "upstairs" will keep the queen and her remaining attendants in fine condition, and there is no fear for the safety of the presiding queen of the colony.

Possibly, and very probably, the same could be said of a caged queen over a colony working in sections, but not having tried it, I cannot speak from experience.

I am indebted to Mr. S. H. Smith for the above "wrinkle," which comes in quite useful at times.—H. M. STICH, Paisley.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d. up to 16 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

August 4, at Madresfield, Malvern.—Annual Show of the Worcestershire B.K.A. Four Open Classes. Gift Class, no entry fee, one 1-lb. bottle, prize 21s.—Schedules from G. Richings, 42, Barbourne Road, Worcester. **Entries closed.**

August 10, at Wye.—Kent Honey Show. Thirty classes, half of which are open to U.K. Four Silver Cups and 75 other prizes. Schedules, Mr. H. C. Chapelow, S.E.A. College, Wye. **Entries closed.**

August 13 and 15, Cannock (Staffs) Show.—£12 offered in prizes for Honey Classes. Concession to exhibitors to meet increased railway charges, viz., only four bottles to be shown in each class.—Schedules from J. Bird, F.H.R.S., Glenmay, Cannock.

August 20, 1921, at Ammanford.—Carmarthenshire B.K.A., in connection with Ammanford and District Horticultural Show. Silver and Bronze Medals for Members' Classes. Open Classes for Honey, Wax, etc. Good prizes.—Schedules from W. Comery, 15, New Road, Ammanford. **Entries close August 17.**

August 24, at Prestbury (Glos.).—In connection with Prestbury Flower Show. One Open Gift Class for 1-lb. bottle. No entry fee. Prizes: 1st, 10s. 6d.; 2nd, 7s. 6d.; 3rd, 5s.—Schedules from A. H. Bowen, Coronation Road, Cheltenham. **Entries close August 17.**

August 27, at Hinckley.—In connection with the Hinckley Sweet Pea and Rose Society's Annual Show. Open to all bee-keepers. 1st prize, 12s. 6d.; 2nd, 7s. 6d.; 3rd, 4s.—Schedule from A. Kimbrell, Clarendon Road, Hinckley.

August 31, at Chester.—Cheshire Bee-keepers' Association, in connection with Cheshire Agricultural Society. Several Open Classes. Good prizes. —Schedules from T. A. Beckett, St. Werburgh Chambers, Chester.

September 17 to 23.—British Bee-keepers' Association Annual Show at Grocers' Exhibition, Royal Agricultural Hall, Islington, London. Entries close September 5. Schedules from Hon. Sec., B.B.K.A., 23, Bedford Street, Strand, London, W.C.2. **Entries close September 5.**

September 21, at Altrincham.—Altrincham Agricultural Society. Largest one-day Show in England. Several Open Classes for Honey, etc. Good prizes.—Schedules from Herbert Turner, 1, Market Street, Altrincham.

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* Immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 7s. per ¼in., or 12s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on MONDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

BROTHER BEE-KEEPERS.—Country Apartments, board and residence; trout fishing.—HORSLEY, Greeba Mills, near St. John's, I.O.M. r.r.12

FOR SALE, Light Lincolnshire Honey, splendid quality, £7 per cwt.—W. SCHOFIELD, Spilsby Road, New Leake, Boston.

WANTED, Extractor; must be complete and suitable for standard bars; geared model preferred.—ATKINSON, "Woodlands," West Park Road, Gateshead. s.6

Fertile Italian Queens. 8/6. Delivery by return. PEARSON & GALE, Marlborough.

SURPLUS.—Strong, healthy 10-frame Stocks, £4 5s.; Stock in skep, £3.—SCOTT, 74, Woodside Park Road, North Finchley. s.2

FEW surplus fertile Queens, Hybrid, 6s. each, by return.—L. POLHILL, Rosemead, Waltham Abbey. s.3

EXCHANGE, 1-frame Observation for Nucleus. —WELSH, 13, Christ Church Gardens, Lichfield. s.4

BEES, overstocked, 6- and 8-frame lots, 45s. and 55s.; pure Italians, 8 frames, 70s., carriage paid; box returnable.—RICHARDSON, Witchford Road, Ely, Cambs. r.124

SPARE STOCKS for Sale cheap; never had disease.—VICAR, Worsbro' Bridge, Barnsley. s.7

FINEST Light Lincolnshire 1921 Honey, no better obtainable, price, 56 lbs., £4 4s.; 28 lbs., £2 4s.; 14 lbs., 22s. 6d.; free on rail; tins free; sample 4d.—CHARLES CUBLEY, Gedney, Holbeach, Lincolnshire. s.8

4-FRAME EXTRACTOR, 115s.; large Ripener, 30s.; never used.—DAWSON, Market Hall, Newark. s.9

A SPLENDID STOCK of Italians on 10 frames, prolific May, 1921, Queen, guaranteed healthy, 3 guineas; plenty of honey in frames.—CURTIS, 1, Nimrod Road, Streatham. s.12

HONEY, comb and heather, 2s. 6d. lb., post free. —MISS CARDALE, Pan's Field, Headley, Hants. s.10

SIX W.B.C. HIVES, excellent condition, Lee's Uxbridge, with insulator hive floorboard, standard or commercial size brood chamber, one lift, 25s. each, f.o.r.; owner moving.—Box No. 27a, BRITISH BEE JOURNAL Office, 23, Bedford Street, Strand, London, W.C.2. s.11

LIGHT CAMBRIDGESHIRE HONEY, screw-top bottles, 24s. dozen; any quantity; sample 6d.—MISS POPELEY, Lower Knarr Fen, Thorney, Peterboro'. s.14

OBSERVATORY HIVES, several patterns, complete with becs and comb. from £2. Will winter easily.—COBB, 33, Bevan Road, Plumstead. r.r.123

FOR SALE, three 1921 Italian Hybrid Queen Bees, very prolific, healthy, 7s. each.—CROWE, Merriott, Crewkerne. s.16

FOR SALE, surplus Stocks of healthy Bees (Italian Hybrid), 1921 Queens, plenty of stores, price £3. — STORER, Rothley Plain, near Leicester. s.17

FEW fertile Hybrid 1921 Queens, 8s. 6d. each.— HUNT, "Fairview," Westmoors, Dorset. r.s.18

DUTCH BEES.—Few strong 10-frame Stocks, £4 10s., carriage paid; cash with order; travelling boxes to be returned; immediate delivery.—MRS. MUNRO, Drakies Cottage, Inverness. s.19

SEVERAL Stocks, Hybrids.—VICAR, Tideswell, Buxton s.20

OVERSTOCKED.—Several strong Stocks healthy Italian Hybrids for immediate disposal. No reasonable offer refused.—HOWLETT, 138, Seaforth Avenue, New Malden. r.r.120

A FEW pure fertile Dutch Queens for sale, 5s. each, post free.—J. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.

SECTIONS, well filled and sealed, for Sale.— DAVID HANCOX, Grove Lodge, Deddington, Oxon. r.r.152

SOMERSET RE-STOCKING COMMITTEE having decided to close down its Apiaries this year, has a number of Nuclei and Stocks for Sale specially selected strain; also Hives and Appliances. What offers?—L. BIGG-WITHER, Birdwood Wells, Somerset. r.154

PURE HOME-RAISED 1921 Italian Queens, 7s. 6d.; surplus Stocks; Geared Extractor.—HOLLINGSWORTH, Heanor. r.54

FIRST GRADE Light English Honey, £8 per cwt.; tins to be sent; sample 6d.—HOWLETT, "Sylvabelle," Tring. r.r.41

BOXES FOR MAKING HIVES. — Inside measurements, 20½ in. long, 17 in. wide, 12 in. deep, dovetailed and nailed corners, all ⅝ tongued and grooved boards; five boxes sufficient for two hives; all complete with lids; put on rail for 1s. 6d. each, or £6 10s. per 100.—MITCHELL "Elderslie," Branksome Avenue, Stanford-le-Hope, Essex. r.r.47

300 LBS. pure English Run Honey for Sale, heather mixture, in 56-lb. tins, at 1s. 6d. per lb.—E. R. DEBENHAM, Bladen Apiaries, Briantspuddle, Dorset. r.r.82

WANTED, as a whole or any part of the following :—A 2 or 2½ H.P. Oil or Petrol Engine, with the necessary dynamo, accumulators, switchboard, wire, switches, bulbs, and other necessary fittings for lighting house with electricity; also 2-in. Force Pump for well 90 ft. deep with overhead apparatus to be driven by above engine.—W. HERROD-HEMPSALL, Old Bedford Road, Luton, Beds. r.q.31

BUSINESS ADVERTISEMENTS.
1½d. per word.

4-FRAME NUCLEI, 40s. each, carriage paid; box returnable.—F. GEE, 26, Barlstone Road, Longton, Staffs. s.5

E TORTORA, Ozzano Emilia (Bologna), Italy, offers consignment of three Queen Bees, guaranteed fertile, of pure Italian breed, for £1. Payment in advance by cheque or British Postal Orders or International Money Orders s.15

HEALTHY DRIVEN BEES, with Queen, 11s. 6d. per lot, carriage paid; boxes returnable; cash with order; orders in rotation.—PULLEN, Ramsbury, Hungerford. r.s.21

"I SHOULD LIKE to keep Italians—bigger colonies, more surplus, easier to handle—but I produce comb honey and must have white cappings." "True, Mr. Honey Producer, but you evidently have never had Bozzalla Bees. Why not try them? Don't wait, however. Bozzalla Queens are not cleared off in September for what they may fetch. They are much too valuable for that. A very limited number will be available in September, so don't be too late."—Sole Agent, H. M. STICH, Riccartsbar Avenue, Paisley. s.22

EXCELLENT HONEY TINS, handles, bolted lids, 7-lb. size, 1s. 6d.; 14 lbs., 1s. 8d.; 28 lbs., 2s.; carriage extra.—BOWEN. s.23

VIGOROUS COTSWOLD VIRGINS, 5s.; four, 18s.—BOWEN. s.24

HARDY, prolific Italian Queens, no better obtainable, fertiles 8s., virgins 4s.; 3-frame Nuclei 35s., 4-frame 42s.; disease free.—MASOM, Grafton Regis Apiary, Stony Stratford. s.26

FOR SALE, Stocks of Bees, £3 3s., and Nuclei, £2 2s.; six Simmins' double Conqueror Hive, with section racks and supers, in very good condition, £5 each; also eight W.B.C. Shallow Frames, complete with drawn combs, 14s. each, and full Sheets of Foundation, 10s. each.—E. R. DEBENHAM, Bladen Dairy Farms, Briantspuddle, Dorset. r.s.27

RE-QUEEN FORTHWITH!—Bowen's Cotswold Queens have given remarkable results; require 20 combs for wintering; August Queens with novel cage, 10s. 6d. Wire your orders.—BOWEN, Queen Specialist, Cheltenham. s.25

STRICTLY BUSINESS. — Free samples of Flavine—S; a Japanned Sprayer, 6s.; one dozen Flavine—S Powders, 1s.; "Let the Bees Tell You," 2s. 6d.; all post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. s.28

SERVICE AND COURTESY.—The Acarine 1921 Eclipse Pad, Reg. Trade Mark No. 414,719, simple, clean and effective, post paid 2s. 6d., including our new "Chloroform Treatment" Circular.—S. H. SMITH, 30, Maid's Causeway, Cambridge. s.29

GOLDEN ITALIAN and Three-Band Queens, pure home-bred fertiles with finest combined guarantee; prices from 8s. 6d.—E. COOMBER, 64, Ronald Park Avenue, Westcliff-on-Sea. s.13

NUCLEI.—Strong Italian on 3 frames, headed by young Queens, our selected and prolific honey-producing strain, 45s., carriage paid; finest Sussex Honey, in 28-lb. tins, £9 cwt.—MISSES PALING & PILLANS, Golden Square, Henfield, Sussex. r.136

PURE imported fertile Dutch Queens, by return of post, 10s. 6d. each.—PEARSON & GALE, Marlborough. r.134

PURE IMPORTED PENNA 1921 FERTILE QUEENS, heading magnificent 6-frame Stocks, 83s., carriage free; boxes 10s., returnable. Crammed with bees, sealed brood and honey. Only few available. Penna's, did you say? Good enough! Delivery by return.—ASHLEY, Lincoln House, Teddington. r.r.146

DUTCH BEES.—Strong healthy Nuclei, magnificent workers, best bees for resisting disease, 35s each, carriage paid; box 5s., returnable.—ALFRED SALT, Sunnyside, Mickleover, Derby. r.149

1921 QUEENS.—Imported Italian, 12s.; Hybrid Italian-English, 8s. each. Safe delivery guaranteed.—OVERTON & SONS, Crawley, Sussex. r.r.155

LEE'S IMPERIAL ORANGE WALLFLOWER, invaluable to bee-keepers, 6d. and 1s. packets.—LEE, The Beeman, Burgess Hill, Sussex. r.r.156

ENGLISH RUN HONEY and Sections bought and sold on commission.—HOWARD LEE, Bowden, Burgess Hill, Sussex. r.r.157

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

STOCKS from 5 frames to 40, 10s. per frame; in skeps 50s.—PRYOR, Breachwood Green, Welwyn. r.r.103

"UTILITY" QUEENS, 10s. 6d. each, can be obtained only from LEE, the Beeman, Burgess Hill, Sussex. r.r.106

ITALIAN (1921) QUEENS from Penna's.—Fertile, 12s. 6d.; virgins, 5s.; no disease; safe delivery.—WARD, 16, Church Road, West Kirby. r.r.46

ITALIAN STOCKS, 6 frames, bred from Penna's Queens, crowded bees and brood, 55s.; box 10s., returnable.—FARROW, Garage, Staplefield Grange, near Haywards Heath, Sussex. r.r.51

FINEST ENGLISH HONEY, in 28-lb. cans, 1s. 6d. per lb.; cans and carriage free.—PEARSON & GALE, Marlborough. r.14

FERTILE ITALIAN QUEENS, by return of post, July 8s. 6d.—PEARSON & GALE, Marlborough. r.q.96

SURPLUS.—Strong healthy 4-frame Nuclei, 35s., carriage paid; 5s. refunded on return of box.—H. WITT, South Ascot, Berks. r.r.68

OVERSTOCKED.—Several strong Nuclei of Italians (Bozzalla and Penna strains) for immediate delivery, 4-frame, 42s.; 6-frame, 63s.; 1921 Queens.—R. V. ROBERTS, 50, Otter Street, Derby. r.r.69

ITALIANS (acclimatised).—Queens, 7s.; Nuclei, 25s.; Stocks.—HOUSTON, Ellen Villa, Sidcup. r.77

"THE APIS CLUB."—If you have a live interest in bee culture as a science and a craft, you should join THE APIS CLUB. Membership fee, 10s. 6d. per annum, and includes the free delivery of "THE BEE WORLD" as published.—For advantages of membership write to the Secretary, THE APIS CLUB, Benson, Oxon. r.o.37

"WIGHT" DISEASE.—Prevention and removal. Invaluable advice, 5s. 6d. "An eye-opener."—ALF. RYALL, Whiteway Apiary, near Camp, Stroud. r.n.169

BALDWIN'S BEES.—Three-frame Nuclei, carriage paid, 35s.; Hybrid Queens, 8s. 6d.—THE APIARY, Bromley, Kent. q.13

QUEENS AT PRE-WAR PRICES.—Untested Laying Queens, 7s. 6d. each; safe arrival guaranteed.—BEE SUPPLIES & PRODUCTS ASSN., LTD., 39, Wandle Road, S.W.17. r.q.133

SUMMER AND AUTUMN RE-QUEENING.—Now is investment time for next season. False economy does *not* pay. There is but one queen heading a colony, and you can only afford to have the best: *Adminson's Selected Tested Carniolan*, 17s. 6d.; prompt and safe delivery guaranteed. r.54

ITALIAN QUEENS DIRECT FROM ITALY, —Special offers from July 1 till countermanded: Four Queens at a time £1 8s. Cash with orders. Payment by cheques or British Postal Orders. International Money Orders are not accepted. Safe arrival guaranteed.—Address, ENRICO PENNA, Bologna, Italy.

QUEENS.—1921 fertile Italian Hybrid, by return of post, prolific and energetic strain, price 8s. 6d. each.—HOSEGOOD, 26, Purley Park Road, Purley, Surrey. r.q.60

1921 PURE FERTILE ITALIAN QUEENS, guaranteed direct from Penna. Regular supplies throughout the season commencing May 7. These genuine Italian Queens need no recommendation. Price, 9s.; selected, 10s. 6d.—GOODARE, New Cross, Wednesfield. r.p.35

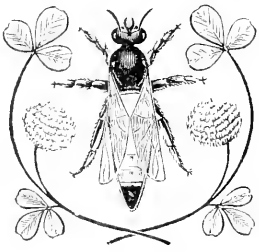
ITALIAN QUEENS, young, fertile, purely mated, disease free; safe arrival guaranteed; 8s. each Queen; special offer, four Queens £1 8s.—GAETANO PIANA, Castel San Pietro, Emilia, Italy. r.l.83

"THE BEE WORLD."—*The "winged" paper that circulates. It is read, re-read, and treasured.* Will it not appeal to you? Specimen copy post free.—Publishers: THE APIS CLUB, Benson, Oxon. r.o.36

EXCEPTIONAL OFFER.—*Adminson's Breeder Hive*, fitted with ten standard aluminium semi-combs, costs £4 2s., carriage forward. Worth double this price.—For Adminson's Hives and Appliances write to JAMES LEE & SON, LTD., Uxbridge. r.n.23

1921 PURE CARNIOLAN QUEENS.—Whether home-bred or imported, our Carniolan Queens are derived from Jan Strgar's famous Alpine strain for which we have the *Sole Agency* in the United Kingdom. Price (from June onwards), 17s. 6d. per Queen; safe delivery guaranteed. A decidedly modest outlay on an investment which more than repays.—ADMINSON, LTD., Benson, Oxon. r.n.64

Italian Queens.



THE honey-flow is practically over in most parts of the country, and NOW is the best time to replace your worn-out queens with vigorous young queens which will build up rousing colonies for winter. We are daily receiving large supplies of our noted Italian queens from our breeder, and we can supply BY RETURN OF POST. These queens are of beautiful colour, and are reared primarily for honey-production and resistance to disease, special attention also being paid to good temper and prolificness.

We guarantee safe arrival, and give a TWO MONTHS' GUARANTEE OF COMPLETE SATISFACTION with every queen

PRICE: August 8/6; September 7/6.

Liberal reduction for quantities.

We can also supply 1921 fertile hybrid-Italian and native queens at 6/- each, and a few pure imported Dutch queens at 10/6 each.

PEARSON & GALE,

MARLBOROUGH.

Editorial

Obituary Notice.

MR. A. G. PUGH.

It is with profound regret, which we are sure will be shared by all our readers, that we have to record the death of Mr. A. G. Pugh, of Beeston. In him we have lost one more personal friend of many years' standing. He had been in failing health for some time, and passed away after an operation He was a member of the Council of the B.B.K.A. for many years, and also a very regular attendant at the council meetings, where his advice was always to the point, and his help of the greatest value. Bluff and

THE LATE MR. A. G. PUGH.

breezy, with a keen sense of humour, his personality will be greatly missed at the Council meetings of the B.B.K.A., and the committee and other meetings of the Notts B.K.A. He was secretary and treasurer of the Notts Beekeepers' Association, a position in which he did much good work, from 1888 to 1895, and held that position when we first commenced beekeeping, and joined the Notts B.K.A. He was followed by the present secretary, Mr. G. Hayes, also of Beeston, who sends the following appreciation:—

A form and face well known amongst British Beekepers has passed from our midst in the person of Mr. A. G. Pugh, of Beeston, Notts, who had been in failing health for some considerable time, and those who were closely associated with him—and he himself—were aware that his time here was not for a much longer period, but the end came somewhat suddenly.

He had just lately been to Italy, and after that to Belguim, in the hope that fresh scenes and fresh air would recuperate him. However, on his return he again had an intense attack of his complicated complaints, and calling in a specialist he was advised to undergo an operation. He consented to this, but he had been so worn out by the disease that the operation proved futile, and after it he soon passed away

His death took place on the evening of July 26, and he was laid to rest in the Beeston Cemetery on July 30 at the age of 66 years. He leaves a widow and four children, two of the latter married and two unmarried, to mourn his loss.

Mr. Pugh will be greatly missed in many places, for he was very active and energetic, but especially will he be missed at the meetings of the Council of the B.B.K.A., the conversaziones, and the various shows where he was a regular attender and where he was in constant demand as judge, etc.

He was a prop and stay to his own county association where he was always looked up to for advice in all matters of difficulty, and to which he was ever ready to give ungrudgingly all the help he possibly could; and here his loss will be felt most acutely.

A wreath of flowers was sent, and two representatives from the Notts B.K.A. followed his remains to their last resting place

A Dorset Yarn.

The demand for knowledge of bees and their economics is fast spreading over Dorset; it must be the publicity in our county newspapers of the meetings held. Each week brings letters for bee demonstrations and a yarn on bees, one week three all for the same day. Our secretary, Mr. Garret, is sought after to judge honey and speak on bees, and the local horticultural shows are giving more prizes for honey, so once more the craft is coming well to the front. The farmers are also giving good prizes for honey. All this tends to help the educational side of bee-keeping, and as each enthusiast takes it up they want to read more about the subject. Some of them find there is more to be got from bees than poultry, as foodstuffs are still dear to buy. Two enthusiasts told me last week they were reading Cheshire's great work; they told me the prices of them (which were very heavy), and one must assume they have purchased them.

The readers of the Journal may have other writers from Dorset to take the place of the "yarns" from the Violet Farm.

Some of them are better in every way; the knowledge they have gained from books and the methods of writers in the Journal are all given a trial. We must try the system next year of Mr. Ellis, of Gretna. To me it seems just what is wanted for heather, plenty of bees, combs of young brood, then they cannot fill the brood box (as ours are doing now); they must take the wealth of nectar into the surplus racks. If this can be got into sections, they are bound to sell well; here they fill shallow combs with ling honey more readily than sections. We wire them the long way of bar, and it is easily cut through and pulled out; we eat this ourselves. We were extracting yesterday (August 1) combs which had some heather stores left in from last autumn. The combs that were only partly full were left on the hive all winter. After the whole was capped over (before extracting) the heather part had quite a red colour showing through the capping; the other part of comb was filled with light-coloured honey, and when the capping was shaved off the colouring was much more showy, and, what was more surprising, the heather came out of the cells quite readily; yet if we wait till September, when this season's crop is harvested, it will not come out of the cells by centrifugal force.

Perhaps Mr. Ellis will tell us how he gets so many bees and all young brood in the six combs in each *double hive*. In ours just now there are so few full combs of young brood; each empty cell is filled with honey, there cannot be any more eggs laid. If we do not get a good lot of late bees we cannot expect such good results next spring. This is as I have always found it, so many old bees die in the winter; it is only the young ones that are *reared* late which will work so well early next season before other workers are ready to take their place.

We have many acres of heather. This farm is on the edge of the rich farm-lands and the Bagshot sands which run from Woking down to Wareham. It is on this sandy peat that the heather thrives. Of course, it will cover other soils. I have seen it cover acres that were once ploughed and sown with corn, good land, but which had been left derelict, so as to have plenty of room and cover for foxes. In this district heather is covering heavy clay soil: on this the tree heather is 10 to 15 ft. high, blooming from Christmas to April. It seems that land that is never ploughed soon has the wild heather spreading over it. The red one comes first, then the ling, the latter crowding out the other with its taller spreading growth. I suppose wild game eat the seeds in winter and leave them on other lands with their excrement.

This season our bees have not yet found the ling heather, even though some have been open seven to ten days. The aroma from the flower cannot be very strong, or else it is the excessive drought spoils it.—J. J. KETTLE.

[The above yarn did not reach us in time for inclusion in the Journal last week.—EDS.]

Jottings from Huntingdonshire

Rain at last! The geese in the farmyard screech their delight, and the ducks go forth ferreting over the pasture lands for possible worms. The steady downpour does not deter the bees; they settle in scores upon the leafy hedgerows and drink their fill. If the pasture lands turn from brown to green before this month is out be sure also many many flowers will yield up nectar to the bees. "What," I am being continually asked, "flowers are there likely to give honey at this time of the year, even if rain does fall and sunshine follows"? Oh, ye unobservant sceptics; take a walk abroad and learn. See the rest harrow on roadside and in field, the ragwort and the knapweed keeping them company with the thistle and tormentil; sprinkled about are also the agrimony and the rock rose, the toad flax, and the hawkbit, showing contrast to the succory and scabious. In the hedgerows see the nipplewort and hawkweed, the meadowsweet and the mints, with the vetchlings and the bindweeds climbing over bank and hedge as if anxious to see the other side. Near the woods that heaven-sent plant, angelical, is ready to be visited by insect life, while the fields are smothered with bellvines, campions, and corn cockles, to say nothing of that rich in nectar, bird's foot trefoil. Yes, there are flowers enough to satisfy a million bees if only the rain does not cease too soon or keep on too long.

I see that at the Surrey show prizes were given for collections of flowers visited by bees, and no doubt similar classes are a feature of other shows. Cannot someone persuade the secretaries when writing reports of the shows to give the names of the prize-winning flowers?

Speaking of shows reminds me that my recent remarks *re* open classes, brought me schedules with notes from secretaries to say in their cases "open classes" were open to all England, and inviting me to exhibit. I might have been tempted had the said schedules arrived as soon as the senders intended. It happens that people cannot resist, when addressing to this county, contracting Huntingdonshire to Hunts, and since Hunts is not recognised by the Post Office as correct, and since when written it looks so much like Hants, many of my letters go galivanting around the county of Hampshire before being sent on here, and even then they often call at Steeple Morden, Herts, on the way, or else journey up through Steeple Ashton, Steeple Bumstead, and Steeple Claydon, arriving here when some P.O. official happens to be a bee-keeper, and catching sight of the words Steeple Gidding writes Huntingdonshire right across the envelope, and so saves the missive from further wanderings.

Now that July has passed, has anyone noticed once more what a disappointing month, on the whole, it has been for honey gathering, and how it has been so for several years. It is a month, given ideal conditions, which should be a great joy to bee-keepers. As far as these eastern counties are con-

cerned, and also I think the southern counties, too, the July of 1917 was excellent for bees. That of 1918 was very indifferent, while those of 1919 and 1920 were both sunless and cold, and this year too hot and too dry. What bad Julys mean to large apiarists can only be imagined by those who keep a few stocks of bees. Getting swarms well established and nuclei built up by the end of June ready for the July flow, and then see it fail, is one of the trials of bee-keeping. A large apiarist in Wales broke as a result of the Julys of 1919 and 1920. He had a hundred stocks vigorous and strong by the end of June, and anticipated at least 30 lbs. of honey from each stock for the month of July, but, alas, the weather upset his calculations and loss instead of profit was the result.

August is the month to make sure the queen bees have not exhausted themselves, and are still capable of carrying on and guaranteeing good stocks of young bees for wintering. Maybe some stocks will need requeening. If so, don't delay—procrastination may mean the loss of stocks. Not every stock which "goes under" is killed off by disease.—E. F. HEMMING, Steeple Gidding.

In Memory of the Visit to The Violet Farm.

A visit to the Violet Farm
  Is something like a treat,
To try Friend Kettle's honey
  That is pure, and clear, and sweet

His bees, they look quite healthy,
  And work with all their might,
Just like our old Friend Kettle,
  They work quite late at night.

His hives, they are the latest,
  And painted in their best,
His bees have got no trouble (to know)
  Their home from all the rest.

There is Colman's mustard, Black and White,
  Spratt's and Thorley's, too;
Quaker oats and Glaxo,
  And Oxo's not a few.

No wonder that his bees do well
  On that famous hill and valley,
Made famous by Friend Kettle,
  Where bee-keepers all should rally

Tons of honey coming in,
  Sections filled up tight;
With the raspberries always blooming,
  There's no need for bees to fight

It's a heavy weight in one small spot,
  Yet not a bee looks sullen;
There's bound to be a sinkage soon
  Round about Corfe Mullen.

His fruit is of the finest
  That ever I did see;
Currants, gooseberries, apples and pears,
  And the noted raspberry.

Here's jolly good luck, Friend Kettle,
  May your bees bring more and more,
To keep you from the workhouse,
  Where there is no honey store.

* * * * *

Seek not the writer of this trash,
  But if you think it's worth it.
Send to "H. H.," the "B.B.J.,"
  Perhaps he will insert it

Sussex Notes.

Although I have been a subscriber to the "B.B.J." for some time, this is the first occasion I have ventured to air my experiences in your paper, and I hope it will not be the last, if you consider them worthy of perusal.

A few years before the war I had the misfortune to lose all my bees in the space of some three weeks. I had then six hives, and the same misfortune also happened to everyone who kept bees in this part of Sussex. I tried to get a fresh stock and failed to do so, when some three years ago a small boy appeared one Sunday afternoon and said he had seen a swarm hanging in a hedge about half-a-mile way. Giving him something to make him happy, I told him to remain at the swarm until I could put in an appearance, and before 9 o'clock at night I had the swarm safely housed. The following year I got two swarms from this colony, and placed them both in skeps. All passed through the winter safely, and the following year I drove out the bees into two frame hives, and also took some 30 pounds of honey. All this had been made at an expenditure of half-a-crown, a satisfactory thing in these days of abnormal taxation. This year I have had three swarms of my own, putting one into a W. B. C. hive and placing the other swarms into skeps—the large-sized ones carrying caps.

I found my bees swarmed, but refused to go into the sections, so some five weeks ago I took away the queen excluder from all four hives, with the result that in another ten days I shall probably get a full rack of sections from all four hives. One of the skeps has already produced some twelve pounds of real good honey, and I have put the cap on again and hope for another supply by August 15. The cap of the other skep will also be ready to take off by that time.

The general idea here has been that the season has been too dry for bees, but that I do not think is the case. Certainly the apple, pear and plum blossom was greatly damaged by frost, but most of the farmers in these parts grow a field of beans. That saved the situation, and the blackberry blossom was better than it has ever been. Now the ling is coming into flower, and that will about end the season; wild sage is also very abundant this year.

We had a common here with abundance of ling on it. Alas! Last year this ground was sold to a Londoner, who promptly destroyed by fire a large portion of the ling, all to no good, for he now finds the ground

is absolutely unfit for cultivation, and he can do nothing with it. But what can one expect from a man ignorant of all country matters, and whose wisdom concerning such things might easily be condensed into the very smallest wine-glass. I might also mention that ling is often used for thatching in the place of wheat straw.

Now there is one point which I think requires a little consideration, and perhaps our friend, Mr. Kettle, might give us some further advice about it. Is the queen excluder absolutely necessary when you use only sections? With shallow frames I believe it is, and the queen would most certainly pay a visit to the shallow frames above the brood chamber without it. I found my bees swarmed in June and let the sections severely alone, but directly I removed the excluder the bees began working on the sections. Would it be advisable not to put on the excluder at all another year? Certainly such would appear to be the case, and I am inclined to make the experiment next year with my four hives.

I did not put the caps on my skeps until some ten days after the swarms were put into them. By that time the combs were well built out, and I have found the queen bee has not gone up into the caps. This shows that caps should not be put on before a fortnight or so after the swarm has commenced work.

I had some little difficulty in getting the bees out of the caps, as I had no spare cap to drive them into, but by taking out the comb and brushing off the bees with a feather I succeeded in getting the honey without destroying any large number of bees. No doubt the proper way is to cut out the comb and let it fall into a vessel, but to do that properly all the bees must be driven out completely. I have found during this hot weather that to keep some good substantial covering over the skeps was very desirable, and indeed necessary.

Well, well, I must finish this letter, and will perhaps continue the correspondence should you consider it worthy of entry in your esteemed Journal.—NEMO.

Beckley, Sussex.
July 26, 1921.

Two Pictures.

The first one shows one of your readers, Mr. E. Maul and a real bee-keeper. High up on Leith Hill he has collected his bees together, and with little outlay on hives.

MR. E. MAUL AND PART OF HIS APIARY.

etc., they bring him in good honey. For a time he had no bees, although, I gather, he always had to do with those of other people, and then he found a stray swarm in a wood which had been there so long that they had produced two or three good combs hanging down from the branches. Two other lots came his way, and from these he now has 24 stocks of bees, and they all seem ripe for the heather harvest, if these fires will leave any heather to bloom. The bee farm is not as old-fashioned as it looks, for nearly all the bees are on standard frames, and the ones in skeps and boxes are going to be on frames by next year, although, unfortunately, circumstances will oblige him to reduce the number of his stocks, since he has not the time to give to so many. My visit gave me a rare treat, since it was a peep at the real thing without any unnecessary trappings.

The second is a word picture which he painted for me so vividly that I seemed to

see it all happening. A small farm, red brick I feel sure, and glowing in the rays of a sinking sun. The farm-yard to one side of the house, sheltered by trees, and with the row of skeps in an out-of-the-way corner. It is the beginning of August, and the hives "great with honey go," and most of the skeps are topped by a smaller skep or cap. It is a few days before the local honey show, and these caps are being prepared, and I was astonished to hear that even in those days the "cap" fetched half-a-crown a pound, and that was some fifty years ago. A little distance from the hives was an old bent apple tree, just right for a seat, and there sits Mr. Maul, then a boy, with his father. Each has a "cap" wrong way up on his knees, and as the bees come up to the top and feel the cool of the evening, a flick with a goose's feather sends them off homewards until the cap is clear of bees and ready for the show.—I. H. JACKSON. Holmwood.

Questions, &c, for Bee-Keepers for Self-Examination.

(Students are recommended to write their answers, and check them afterwards by reference to books.)

553. Explain why some honeys are of greater density than others

554. How and why should an entrance to a hive be adjusted to the strength and size of the colony?

555. When feeding with a comb of honey in a frame, where in the hive should the frame be placed? Give reasons.

556. What are the indications that a queen in a colony is failing?

557 How should a queen be searched for in a hive?

558. What are the objections to the operation known as "spreading the brood"?

559. What is the best time in the year to re-queen? And why?

560. Discuss whether drone foundation or worker foundation is preferable in sections.

J. L. B.

Lichfield Horticultural Society's Show.

In connection with the above show the Lichfield and District branch of Staffs. B.K.A. held a highly successful exhibition of bees and bee produce on Saturday July 30 and Monday, August 1, in Beacon Park.

As all classes were open to all bee-keepers, and thanks to the popularity of the "B.B.J.," whose "Shows to Come" column is closely scanned by "Showmen," we had 80 entries, several of these having figured in the prize lists at the "Royal," also at our county show.

The Judge, Mr. J. Price who carried out his duties most satisfactorily, was so pleased with the quality of the exhibits, that he extended the prize list in two classes.

The light honey class was so well supported—27 entries—that he had to spend considerable time on the "weeding out" process, and in the finish made eight awards. The Staffs. Bee-keepers held their own well in the contest, five out of six first prizes remaining in the county, which speaks well for the work being done by our county education authority expert, Mr. Price, on the "show bench" side of bee-keeping.

Prize list as follows :—

Class 1. For the best four sections of honey.—1st, Miss Capewell, Brocton; 2nd, G. Evans, Bromstead; 3rd H. W. Edwards, Coleshill; 4th, E. Jacques, Lichfield; 5th, G. H. Mytton, Lichfield.

Class 2.—For the best four jars of light honey.—1st, G. Evans; 2nd, E. Jacques; 3rd, C. F. Brookes, Alrewas; 4th, A. H. Bowen, Cheltenham; 5th, Miss Capewell; 6th, J. Bannister, Alrewas; 7th, F. D. Winterton, Lichfield; 8th, H. W. Edwards.

Class 3. For the best four jars of granulated honey.—1st, Miss Capewell; 2nd, A. H. Bowen; 3rd, H. W. Edwards.

Class 4. For the best four, other than light, jars of honey.—1st, A. E. Warren, Bletchley; 2nd, G. H. Mytton; 3rd, E. Jacques; 4th, Miss Capewell; 5th, W. Welch, Lichfield

Class 5. For the best shallow frame for extracting purposes.—1st, Miss Capewell; 2nd E. Jaques; 3rd, M. Craddock, Longdon, Lichfield; h.c., J. Bannister.

Class 6.—For the best 8 ozs. of beeswax.—1st, M. Craddock; 2nd and 3rd, divided, G. Evans and A. Berrisford, Cannock; 4th, H. W. Edwards; 5th, G. H. Mytton.

SPECIAL PRIZES.

Silver medal of Staffs. B.K.A., for the highest number of points gained by a member of the Association.—Miss Capewell, 13½ points.

Bronze medal.—G. Evans, 9½ points

Presented by Messrs. Taylor, Ltd., Welwyn, W. B. C. hive, outer case, for highest number of points gained by a district member.—E. Jacques, 9 points.

Brood box and frames, for second highest.—M. Craddock, 5 points.

Shallow box and frames, 3rd, 4 points.—G. H. Mytton.

Section rack, 4th.—W. Welsh.

Presented by A. H. Bowen, Cheltenham, one queen introducing frame.—Won by A. E. Boardman.—E. JACQUES, Sec.

Notts. Bee-Keepers' Association

A very successful local show was held at Southwell on July 26, some excellent honey being staged, the same being judged by A. Riley, Esq., of Beeston, who made the following awards :—

Class 1. For the best six 1-lb. sections of comb honey, produced in any year.—1st prize, G Marshall, Norwell; 2nd prize, W. Trinder, Edwinstowe.

Class 2. For the best six 1-lb. jars of extracted honey, produced in any year.—1st prize, W. Trinder, Edwinstowe; 2nd prize, E. Saddington, Ossington.

Class 3. For the best six 1-lb. jars of

granulated honey, produced in any year.—1st prize, H. Merryweather, Southwell; 2nd prize, W. G. Rogers, Halam.

Class 4. For best specimens of bees of any race to be exhibited, living with their queen in a Unicomb observatory hive.—1st prize, W. B. Rogers, Halam; 2nd prize, G. Marshall, Norwell.

Class 5. For best sample of beeswax to approximate 8 ozs.—1st prize, W. Trinder, Edwinstowe; 2nd prize G. Marshall, Norwell.

Special prizes. A W.B.C. hive, kindly given by E. H. Taylor, Ltd., Welwyn, to the amateur who has not previously taken a prize for the largest number of points.—Won by W. B Rogers, Halam.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

The Adventures of a Queen.

[10494] In the winter and spring of 1919-20 four out of my five colonies of Italian-British bees died of the Isle of Wight disease, and the fifth was reduced to a miserable remnant, consisting of the queen and two or three handfuls of workers. One day towards the end of April I told my tale of woe to a bee-keeping friend. "If I had about a breakfast-cupful of bees," I said, suggestively, "I think I could manage. I have brought a box in the hope that——" "Certainly," she said, divining my meaning, and graciously she led me into the garden.

Next day I directed my steps to another apiarian enthusiast, and spun my yarn. "Mrs. R—— was kind enough to give me a few bees yesterday, but scarcely enough, I'm afraid, to save the situation. I was wondering whether you——" "Delighted, I'm sure! Come along." And he gave me half-a-pint of *Apis mellifica*, made up of equal parts of Italian and Dutch.

The colony prospered, and in the autumn of 1920 I put up for the winter as strong, and apparently as healthy, a stock as any man could wish to have.

At the end of May last I discovered sealed queen cells, so I made an artificial swarm and also a nucleus, as I wished to replace the old queen, who was now in her third season. In due course eggs appeared in the nucleus, so I removed mother and daughter from their respective domiciles, immersed each of them in an egg-cup of honey, and poured daughter and honey into the old queen's hive, and *vice versa*.

On examining the stock three weeks later I was surprised to see on the back comb a newly-hatched queen, a number of sealed queen cells in the centre of the nest, and the young fertile queen, whose wings were damaged—probably as the result of a mauling at the time I introduced her. There were a lot of eggs, and a large quantity of brood in all stages. I concluded that, owing to her damaged condition, the bees had taken steps to supersede her. I was satisfied that they had not raised the queen with the object of swarming, but not wishing to run the risk of losing a swarm (in case my diagnosis should prove wrong), I decided to clip her wings. While attempting to do this in my badly-lit workshop, she fell from the comb, and I completely lost her among the *débris* on the floor.

I ought now to explain that a day or two before this occurred a young queen, reared to supersede her mother, appeared in the nucleus. As the latter's days were numbered, I thought I would put her into the hive containing the virgin queen and the sealed queen cells, in order—if she were accepted—to avoid a cessation of egg laying. I therefore introduced her as before. This was on July 9. On the 11th I examined the hive, and there she was on a comb containing a large number of new-laid eggs, and on the next comb but one was the daughter. The queen cells had been destroyed. On the 15th I looked again; the old queen was in the brood chamber and the young one in the super. On the 22nd they were both there, the mother again in possesion of the main apartment, and the daughter, now fertilised, in the super.

I was away from home between July 22 and 29, and on examining the colony on the 30th I found the young queen, but the old one, who had had such an adventurous career, had disappeared.—CANNING WILLIAMS, 14, Parklands, Surbiton, August 4, 1921.

Origin of Tarsonemus Woodi?

[10495] The "American Bee Journal" published a very interesting article by Mr. P. Bruce White on the acarine mite.

The illustration of the mite in the article was of great interest, because, under the microscope, I have found the same mite in old pollen. It suggests itself as being probable that the mite in the first place may have its origin in this old pollen, and transfer itself to the bees, and that in storing and returning old pollen loaded combs to the hive we may have the origin of the disease. I daresay it has been noticed how unpleasant this dust is when it gets on the skin and in one's nostrils when one tries to get rid of some of it out of the comb.

It seems reasonable to think that this is caused by the action of the mite, and the discomfort caused to oneself be something similar to the action of the parasite entering the spiracular orifices of the bee.—MACCOWEN HALL.

P.S.—I may say that I have not always found it present in old pollen.—McC. H.

Spanish Cork Hives.

[10496] While rambling in the hills in Southern Spain, some ten miles from Gibraltar, I came across an apiary of which I enclose a photograph which may interest your readers.

My British companion spoke Spanish fluently, and while we were watching the bees the proprietor came up and kindly gave us information about them. Unfortunately my companion is not an apiarist, and my Spanish being limited, it was difficult to converse, but the following gleanings may interest your readers:—

The hives are simply the bark stripped from a neighbouring cork tree, about 4 ft. long by 1 ft. inside diameter, held roughly together by a piece of wire near the top, and another near the bottom. The bees were flying in and out along the seam, the edges of which were not trimmed at all. A disc of cork plugged the bottom. The top is covered roughly by the strip of cork lying on the top. The chief honey harvest is about mid-June, when a knife is run round the inside from above, and about 60 lbs. of honey taken from the whole of them. A smaller second crop is obtained in September, leaving a little for the bees, which fly through the extremely mild winter, frost and snow being practically unknown.

At the time of my visit, in early May, two swarms had gone off and taken possession of hollow trees in the neighbourhood.

The proprietor informed us that he did not sell his honey, but produced enough for his own household's consumption, and he seemed quite satisfied to allow his swarms to go off. To my inquiry as to how he replenished his stock in the event of losing one, he replied that if a hollow piece of cork, like those in the photograph, is put down in the wood, a colony is sure to take possession of it.

There was a profusion of wild flowers, many familiar, and as cattle were grazing in the low ground half-a-mile or so away, I presume there would be white clover. Brambles were in flower. I also remarked scabius, heath, broom, borage, cistus, thyme, lavender, charlock, etc., in the vicinity.

The stem of one of the trees in the background shows where the cork has been stripped from it.—A. H. Meysey Thompson.

Spanish Apiary of Cork Hives.

Is It Playing the Game?

[10497] I am a three-year-old novice, still enthusiastic in spite of many stings and grievous winter losses. Last year from some half-dozen hives I harvested 150 lbs. of honey, and 125 lbs. in the previous season. This spring I began with five stocks, one of which has failed to do anything but occupy three or four combs, refusing either to increase or to dwindle. From the four good stocks I have already taken about 150 lbs., mostly extracted honey, and I have another 100 lbs. or more still in the supers.

Now what I want to know is this: Mine is an out-apiary, and I am a week-end bee-keeper. On the farm where the bees are kept is a friendly labourer who can hive a swarm if I make the requisite preparations. I had by me a number of combs, mostly from hives whose occupants had perished of starvation in the winter. Early in May I put out a clean hive fitted with combs and left it ready. In three days it was occupied by a swarm, which certainly did not come from by own stocks. I then put out a second hive, which, after a week or two, was similarly occupied. Three other hives have been tenanted since, but only by casts, and not until July and of these two have since been deserted after cleaning up their lodgings and bringing out a handful of pellets of pollen from some very ancient combs. There are

few bee-keepers in my village, and none of them, so far as I can learn, has to his knowledge lost a swarm this year. On the other hand, there are several colonies of wild bees in roofs round about, and some in hollow trees. Is it a fair thing to set up an empty hive in such a district? Or can one be accused of enticing away one's neighbours' property? It seems to me that it is likely that the swarms and casts would otherwise have gone lost, and that the practice is justifiable, especially if one is ready as I am, to restore a swarm to any owner who can make out a reasonable claim. Is it known how far a swarm will fly? The books tell us how far bees will go for forage, but I do not recall records of the distance that swarms will travel. Are these bees likely to have come a distance of more than two miles, which is the radius of the district in which the bee-keepers are few?

I shall be very glad to know the opinions of your readers, whether the setting up an empty hive, which may attract a runaway swarm, is or is not "playing the game."—C. C. FELIN.

[We have our own opinion on the above matter, but before airing it would like to have the opinions of our readers.—EDS.]

Introducing Virgin Queens.

[10498] The following method of introducing a virgin queen to old, long queenless bees may prove useful to some of your readers.

I had a stock on seven combs to which a virgin was successfully introduced, but which proved to be a drone breeder. This queen was therefore removed, and a virgin given caged under a zinc cage on honey and pollen. She was released after about twenty-four hours, but had to be re-caged.

I now divided the stock thus. The brood and most of the honey combs were removed to a new position, along with the caged queen, and two combs containing honey and pollen, but no brood, were put into a travelling box on the old stand, to receive the returning bees.

Not all the bees returning stayed, because later I identified many in another stock of different strain; however, a sufficient number disconsolately accepted the situation, and to these a queen-cell in process of hatching was given, in this manner.

The box part of a match-box had the cell stuck into its top corner when up-ended, and this was placed *outside* the travelling box in the corner of the front and side walls on a level with, and about two inches from, the entrance.

The bees were running about now, as I expected, looking for the queen, and in about five minutes found the cell, and the emerging queen, which was at once accepted. She took a long time to find the way in, but, in about an hour, was inside.

I have since added brood, and expect to have a laying queen in a day or two. Such a method is, of course, advisable only in warm weather.

The other caged queen has been also accepted after having given the stock a comb of emerging bees.

I let the queen cell in the match-box stay in position for two days after, and it was a constant attraction to the bees.

I also make a point now of giving every nucleus the cell out which the to-be-introduced virgin has hatched, as I believe this lessens the risk of her being balled. I push it into a comb just on the edge of the brood.—JAMES B. BALLANTYNE, c/o Cairns, Denwick, Alnwick, July 15, 1921.

Labelling Honey.

[10499] As regards the sale of English honey, the methods of marketing have been most crude in the past. Some of the county associations issue a honey label for members only "Pure Honey."

"Pure honey" may be obtained from Australia at the present moment at 40s. per cwt.

What we want is that the bee-keepers of England, Ireland, Scotland and Wales shall label their honey with the country of origin. Then we shall get away from the bugbear of "pure honey," and do away eventually with a great amount of trickery which is at present practised in the wholesale and retail distributive trade.—J. H. LEE, "Little Bowden," Burgess Hill

Skep-Reared Queens.

[10500] The Rev. E. F. Hemming writes in favour of skep-reared queens, which he says are unsurpassable. Mr. R. Whyte has also written to the same effect in a recent number of the *Bee World*. When two competent and well-known bee-keepers make statements of this sort one rubs one's eyes and wonders what they mean.

To my mind a skep is as antiquated and useless an article in modern bee-keeping (except as a temporary receptacle for hiving swarms) as are bows and arrows in modern warfare.

Is it merely intended to assert that *naturally* reared queens are as good as, or superior to, those reared by artificial methods from grafted larvæ in artificial cell-cups, or that queens reared under the *swarming impulse* are superior to all others? If this is all that is meant, why cannot it be done as well, or better, in frame hives as in skeps?

A writer in the Swiss *Bienen-Zeitung* recently advocated raising queens under the swarming impulse from one's best stocks, and points out that any stock can be made to swarm for this purpose by inserting frames of drone comb and making it extra strong by the addition of sealed brood from other stocks; further, if the bees are supplied with frames of newly-built worker-comb an abundance of queen cells will be built thereon under the best possible conditions, provided there is a flow of honey and favourable weather. If this is not what is meant, will Mr. Hemming kindly state wherein the superiority of the skep consists?

I maintain the superiority of the modern hive for all purposes, and deprecate any attempt to "put back the clock"—except

to Greenwich time—by advocating out-of-date methods or appliances. To those who keep a skep or two for purely sentimental reasons I have, of course, nothing to say. Anything that can be done with a skep can be done as well, or better, with a frame hive. —L. ILLINGWORTH.

Bees and Laxtonberries.

[10501] To-day our bees suddenly started eating up our *Laxtonberries* (cross between rasps and logans). I enclose you a berry, and also some sprays which were loaded *this morning* with *big, juicy* berries, now sucked absolutely dry. They have eaten up about 3 lbs. of them to-day. They did not do so last year, nor year before. Is it usual in a dry season?

Dr. Alnstad, writing in the "Co-operative Food Culture" Journal for November, 1918, when sugar for bees was short, gives a recipe for synthetic honey containing ½ oz. of fruit juice, he recommended gooseberry juice as containing the necessary vitamines for bees! So, possibly, as the honey is scarce and thick just now they have found what they need in our berries. They have not touched the gooseberries, so far. I enclose you a specimen of a wild Australian bee sent me from West Australia.—MISS A. PARKER, North Finchley, July 24, 1921.

[We have known bees to collect the juice of plums and pears after the skin has been bitten through by birds or wasps. This usually occurs after the clover and many other flowers have ceased to bloom. The days are warm, and bees are prospecting every available source to try and collect a little more stores. Nothing comes amiss at such time from raiding other hives, a jam factory, confectioner's shop, or the juice from fruit. We have not grown the laxtonberry, and have not noticed bees on raspberries or loganberries. The skins of the berries sent appear to be comparatively soft, and possibly the bees are able to pierce them when the fruit is quite ripe, but they would be unable to pierce the skin of a gooseberry. We should say it is just the sweetness of the juice that attracts them, and not the presence of vitamines. The bee was an Italian worker.]

Bee Shows to Come.

August 13 and 15, Cannock (Staffs) Show.—£12 offered in prizes for Honey Classes. Concession to exhibitors to meet increased railway charges, viz., only four bottles to be shown in each class.—Schedules from J. Bird, F.H.R.S., Glenmay, Cannock.

August 20, 1921, at Ammanford.—Carmarthenshire B.K.A., in connection with Ammanford and District Horticultural Show. Silver and Bronze Medals for Members' Classes. Open Classes for Honey, Wax, etc. Good prizes.—Schedules from W. Comery, 15, New Road, Ammanford. **Entries close August 17.**

August 24, at Prestbury (Glos.).—In connection with Prestbury Flower Show. One Open Gift Class for 1-lb. bottle. No entry fee. Prizes: 1st, 10s. 6d.; 2nd, 7s. 6d.; 3rd, 5s.—Schedules from A. H. Bowen, Coronation Road, Cheltenham. **Entries close August 17.**

August 27, at Hinckley.—In connection with the Hinckley Sweet Pea and Rose Society's Annual Show. Open to all bee-keepers. 1st prize, 12s. 6d.; 2nd, 7s. 6d.; 3rd, 4s.—Schedule from A. Kimbrell, Clarendon Road, Hinckley.

August 31, at Chester.—Cheshire Bee-keepers' Association, in connection with Cheshire Agricultural Society. Several Open Classes. Good prizes. —Schedules from T. A. Beckett, St. Werburgh Chambers, Chester.

Saturday, September 10, at Brentford.—Middlesex Bee-keepers' Association, in conjunction with Brentford Allotments Association's Annual Show, at Wesleyan School Hall, Clifden Road. Five Classes for Honey. Open Classes: One 1-lb jar of 1921 extracted honey, one 1921 section, one aluminium semi-comb of capped honey. Classes confined to members of the Middlesex Bee-keepers' Association: One 1-lb. jar of 1921 extracted honey, one 1921 section. Prizes: 10s., 5s., 2s. 6d. each class, and bronze medal of the British Bee-keepers' Association for best exhibit. Semi-comb prizes: £1 1s. and 10s. 6d. No entrance fees. Exhibits (excepting semi-combs) become the property of the above-named Associations.—Entries, to be made on a postcard, to R. R. Babbage, 33, Whitestile Road, Brentford, Middlesex. **Entries close September 5.**

September 17 to 23.—British Bee-keepers' Association Annual Show at Grocers' Exhibition, Royal Agricultural Hall, Islington, London. Entries close September 5. Schedules from Hon. Sec., B.B.K.A., 23, Bedford Street, Strand, London, W.C.2. **Entries close September 5.**

September 21, at Altrincham.—Altrincham Agricultural Society. Largest one-day Show in England. Several Open Classes for Honey, etc. Good prizes.—Schedules from Herbert Turner, 1, Market Street, Altrincham.

Saturday, September 24, 1921.—Staffordshire Bee-keepers' Association. The Autumn Exhibition of Honey, etc., will be held in the Technical Buildings, Stafford. Seven Classes for members only. Also for the best exhibit of honey in a metal comb, open to the world. Entrance fee 1s. Prizes, £1, 10s., and 5s.—Schedules from the Secretary, W. Griffiths, Solway House, Silkmore, Stafford. **Entries close September 22.**

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One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 7s. per ¼in., or 12s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

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PRIVATE ADVERTISEMENTS.

BROTHER BEE-KEEPERS.—Country Apartments, board and residence; trout fishing.—HORSLEY, Greeba Mills, near St. John's, I.O.M. r.r.12

FOR SALE, two good Hives and one Stock Bees, 80s.—ARKELL, Horcott, Fairford. s.40

THREE strong Italian 10-frame Stocks, 1921 Queens; four W.B.C. Hives, complete; several Lifts, Shallow Frames, Section Racks, etc.; 4-frame Geared Extractor and Sundries; complete outfit £15.—JOHNSTONE, Annandale, The Ridgway, Sutton, Surrey. s.31

FOR SALE, pure extracted Welsh Honey, 1s. 6d per lb., carriage paid.—MORRIS, Penrallt, Henllan, Cards, S. Wales. r.s.32

FOR SALE, Observatory Hive by Lee, takes three frames and sections, in perfect condition, £4.—O. G. PIKE, Ridgemount, Hounsden Rd., Winchmore Hill, N. s.33

PURE ITALIANS, six combs, headed Penna's first grade Queen, 47s.; English Hybrids, six combs, June Queen, 42s.; healthy.—24, Woodberry Grove, N. Finchley. s.38

FINEST quality Sections Comb Honey, 24s. per dozen, packed and free on rail.—PULLEN, Ramsbury, Hungerford. s.41

1 CWT. guaranteed pure light Welsh Honey for Sale in 56-lb. tins, 1s. 6d. per lb.—HOUSE, 6, School Street, Pontyclun, Glamorgan. s.42

FOR SALE, six 1921 Italian Hybrid Queens, healthy and prolific (Simmins' strain), 7s. each.—WILLIAMS, 17, Aveling Park Road, Walthamstow, E.17. s.51

HONEY, South Lincolnshire, light amber, clear and matured, £8 per cwt.; tins free and carriage paid.—RODGERS, Market Deeping, Lincs. s.53

FINEST ENGLISH HONEY, £8 per cwt.; sample 3d.—DUTTON, Terling, Witham, Essex. s.54

FINEST ENGLISH HONEY, 15 cwt., mainly Red Clover; 3 cwt., £24; 56 lbs., 1s. 6d per lb.; sample 6d.—THOMAS, Causeway, Burwell, Cambs. r.s.55

WANTED, Geared Extractor, in good condition, Cowan's or other good make; also Ripener and Jars, etc.—Write, N. P., c/o J. W. VICKERS & CO., LTD., 5, Nicholas Lane, E.C.4 s.56

LIGHT CAMBRIDGESHIRE HONEY, screw-top bottles, 24s. dozen; any quantity; sample 6d.—MISS POPELEY, Lower Knarr Fen, Thorney, Peterboro'. s.14

OBSERVATORY HIVES, several patterns, complete with bees and comb, from £2. Will winter easily.—COBB, 33, Bevan Road, Plumstead. r.r.123

FOR SALE, surplus Stocks of healthy Bees (Italian Hybrid), 1921 Queens, plenty of stores, price £3. — STORER, Rothley Plain, near Leicester. s.17

FEW fertile Hybrid 1921 Queens, 8s. 6d. each.—HUNT, "Fairview," Westmoors, Dorset. r.s.18

SECTIONS, well filled and sealed, for Sale.—DAVID HANCOX, Grove Lodge, Deddington, Oxon. r.r.152

SOMERSET RE-STOCKING COMMITTEE having decided to close down its Apiaries this year, has a number of Nuclei and Stocks for Sale specially selected strain; also Hives and Appliances. What offers?—L. BIGG-WITHER, Birdwood Wells, Somerset. r.154

WANTED, as a whole or any part of the following:—A 2 or 2½ H.P. Oil or Petrol Engine, with the necessary dynamo, accumulators, switchboard, wire, switches, bulbs, and other necessary fittings for lighting house with electricity; also 2-in. Force Pump for well 90 ft. deep with overhead apparatus to be driven by above engine.—W. HERROD-HEMPSALL, Old Bedford Road, Luton, Beds. r.q.31

OVERSTOCKED.—Several strong Stocks healthy Italian Hybrids for immediate disposal. No reasonable offer refused.—HOWLETT, 138, Seaforth Avenue, New Malden. r.r.120

BUSINESS ADVERTISEMENTS.
1½d. per word.

5-FRAME STOCKS Native Bees, 45s., carriage paid.—ALUN JONES, Halkyn, Flintshire. s.34

HEALTHY DRIVEN BEES with fertile Queen, guaranteed minimum weight 3 lbs., 14s. per lot, carriage paid; immediate delivery.—PEARSON & GALE, Marlborough. r.s.35

STRICTLY BUSINESS.—The Acarine 1921 Eclipse Pad was originally intended to knock out the wax moth, but we found it to act as well against the mite. The vapours cause the wax moth larvæ to come out of their webs and to fall on to the pad where the bees can deal with them. Old Tarsonemus is laid out even quicker, and once he hits the pad he does not move very far, before giving up the ghost. Owing to the present high prices of drugs and chemicals and the large amounts the porous pad absorbs, we regret that we have to raise the price to 5s., post paid. But if it does not give satisfaction you get your money back.—S. H. SMITH, 30, Maid's Causeway, Cambridge. s.36

SERVICE AND COURTESY.—When in 1917 and 1918 we began the free distribution of Flavine the price of that chemical was 1s. 4d. per 5 grammes. We had hardly got it going when the makers jumped the price to 5s. We did not say anything, but kept on our way. The same thing is now happening with the drugs and chemicals used on our Acarine 1921 Eclipse Pad, but we hope shortly to corner enough of them to put up a fight against the ring.—SMITH, Cambridge. s.37

TWO STOCKS, Italian Hybrids, 9 frames, new combs, plenty of stores, 1921 Queens, £3; Dutch Nuclei, 3-frame, 35s.; Honey, good quality, in bulk, 1s. 6d. per lb.—MATTHEWS, 25, Cray Road, Crockenhill, Swanley, Kent. s.39

SIX 4-FRAME NUCLEI, pure Italians, Penna's strain, 40s.; Stocks, 8s. frames; 1921 Queens; boxes 10s., returnable.—HENSLEY, Queen's Road, Chatham. s.43

GORDON ROWE, 28A, Moy Road, Cardiff, sells all kinds and grades Honeys and pure Beeswax; samples 1s. each; terms, cash. Can supply Honey Parchments, stamped "Pure Honey," 2 lbs., 14s.; 1 lb., 9s. 6d.; ½ lb., 7s. per 100; 500 lots carriage paid. s.46

BEES.—1921 fertile Queens in 3-frame Nuclei of Simmins' Golden Italians and Dutch are bred to resist disease and get most honey. Marvellous harvest.—EDITH RIGBY, Howick Lane, near Preston, Lancs. r.s.47

SALE, two 4-frame Nuclei, strong and healthy, headed by Penna 1921 Queen direct, price £2; box free; carriage paid.—HEWITT, Balne Avenue, Wakefield. s.45

SUPERIOR HONEY TINS, handles, bolted lids, 7-lb. size., 1s. 2d.; 14 lbs., 1s. 8d.; 28 lbs., 2s.; carriage extra.—BOWEN. s.48

3-FRAME NUCLEI, 25s.; 4-frame, 30s.; Stocks, £3; strong and healthy; Hives from 10s.; cases 6s., returnable.—W. A. WOODS, Normandy, near Guildford. s.50

E TORTORA, Ozzano Emilia (Bologna), Italy, offers consignment of three Queen Bees, guaranteed fertile, of pure Italian breed, for £1. Payment in advance by cheque or British Postal Orders or International Money Orders s.15

HARDY and prolific Italian Queens by return, fertile 8s.; no better obtainable; 17 years' practical experience.—MASOM, Grafton Regis Apiary, Stony Stratford. s.52

Fertile Italian Queens. 8/6. Delivery by return. PEARSON & GALE, Marlborough.

QUEENS, QUEENS.—Guaranteed genuine Penna Italians, bred and mated in Italy. I can supply these excellent Queens by return; gentle, prolific, and with a world-wide reputation, 8s. 6d. each; selected, 10s. 6d.—GOODARE, New Cross, Wednesfield.

GREAT AUTUMN QUEEN SALE.—105 Cotswold Queens must be cleared during August. With every order a novel Introducing Cage, value 2s. 6d., given free. Special August rates: One Queen, 10s. 6d.; two, 20s.; three, 28s.—Wire your orders to BOWEN, Cotswold Queen Specialist, Cheltenham. s.49

HEALTHY DRIVEN BEES, with Queen, 11s. 6d. per lot, carriage paid; boxes returnable; cash with order; orders in rotation.—PULLEN, Ramsbury, Hungerford. r.s.21

"I SHOULD LIKE to keep Italians—bigger colonies, more surplus, easier to handle—but I produce comb honey and must have white cappings." "True, Mr. Honey Producer, but you evidently have never had Bozzalla Bees. Why not try them? Don't wait, however. Bozzalla Queens are not cleared off in September for what they may fetch. They are much too valuable for that. A very limited number will be available in September, so don't be too late."—Sole Agent, H. M. STICH, Riccartsbar Avenue, Paisley. s.22

FOR SALE, Stocks of Bees, £3 3s., and Nuclei, £2 2s.; six Simmins' double Conqueror Hive, with section racks and supers, in very good condition, £5 each; also eight W.B.C. Shallow Frames, complete with drawn combs, 14s. each, and full Sheets of Foundation, 10s. each.—E. R. DEBENHAM, Bladen Dairy Farms, Briantspuddle, Dorset. r.s.27

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PURE IMPORTED PENNA 1921 FERTILE QUEENS, heading magnificent 6-frame Stocks, 68s., carriage free; boxes 10s., returnable. Crammed with bees, sealed brood and honey. Only few available. Penna's, did you say? Good enough! Delivery by return.—ASHLEY, Lincoln House, Teddington. r.r.146

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BALDWIN'S BEES.—Three-frame Nuclei, carriage paid, 35s.; Hybrid Queens, 8s. 6d.—THE APIARY, Bromley, Kent. q.13

SUMMER AND AUTUMN RE-QUEENING.—Now is investment time for next season. False economy does *not* pay. There is but one queen heading a colony, and you can only afford to have the best: *Adminson's Selected Tested Carniolan*, 17s. 6d.; prompt and safe delivery guaranteed. r.34

ITALIAN QUEENS DIRECT FROM ITALY, —Special offers from July 1 till countermanded: Four Queens at a time £1 8s. Cash with orders. Payment by cheques or British Postal Orders. International Money Orders are not accepted. Safe arrival guaranteed.—Address, ENRICO PENNA, Bologna, Italy.

FINEST ENGLISH HONEY, in 28-lb. cans, 1s. 6d. per lb.; cans and carriage free.—PEARSON & GALE, Marlborough. r.14

1921 PURE FERTILE ITALIAN QUEENS, guaranteed direct from Penna. Regular supplies throughout the season commencing May 7. These genuine Italian Queens need no recommendation. Price, 9s.; selected, 10s. 6d.—GOODARE, New Cross, Wednesfield. r.p.35

ITALIAN QUEENS, young, fertile, purely mated, disease free; safe arrival guaranteed; 8s. each Queen; special offer, four Queens £1 8s. —GAETANO PIANA, Castel San Pietro, Emilia, Italy. r.l.83

"THE BEE WORLD."—*The "winged" paper that circulates. It is read, re-read, and treasured.* Will it not appeal to you? Specimen copy post free.—Publishers: THE APIS CLUB, Benson, Oxon. r.o.36

EXCEPTIONAL OFFER.—*Adminson's Breeder Hive*, fitted with ten standard aluminium semi-combs, costs £4 2s., carriage forward. Worth double this price.—For Adminson's Hives and Appliances write to JAMES LEE & SON, LTD., Uxbridge. r.n.23

1921 PURE CARNIOLAN QUEENS.—Whether home-bred or imported, our Carniolan Queens are derived from Jan Strgar's famous Alpine strain for which we have the *Sole Agency* in the United Kingdom. Price (from June onwards), 17s. 6d. per Queen; safe delivery guaranteed. A decidedly modest outlay on an investment which more than repays.—ADMINSON, LTD., Benson, Oxon. r.n.64

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Half page ...	2	16	0
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Beekeepers, the past year, had an opportunity to indicate their preference for Airco. The result was a 50% increase in Airco Sales.

This season use your opportunity to test Airo Foundation.

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For catalogue of 64 pages, for free booklets on Beginners' Outfits, Hives, Beekeeping, etc., address

THE

A. I. ROOT CO., Medina, Ohio, U.S.A.

Seasonable Hints.

Unless there is a prospect of further supplies of honey from heather, or other late flow, it will be well to remove all surplus as soon as possible. Very strong colonies may need a box of shallow combs or sections—the former for preference—leaving on the hive in order to accommodate the bees. If there is no forage it will probably be found that breeding has ceased, and slow feeding should be started in order to encourage its resumption, or the colony will suffer next spring for the lack of young bees reared from the latter part of July onwards. In our own hives we noticed that breeding ceased almost entirely at the end of July, owing to the drought, and consequent lack of flowers. Unfortunately our district has not up to the present been favoured with anything beyond a few showers that have done little more than lay the dust, and these have only come during the last week or ten days. The fields are still brown and bare, very few flowers being out. However, a field of red clover across the road—a second crop—has freshened up enough to yield some nectar, and, as the heads are small, the bees have been able to work on them and collect some nectar. The benefit is two-fold. Breeding has commenced again, and colonies that would apparently need feeding for winter stores are in a fair way for collecting plenty of natural stores. All supers have been removed, and as our hives hold twelve frames, but only ten are generally used, two extra frames of drawn-out comb have been added to give the bees room. The number may be reduced later, when packing for winter.

Great care must be taken to prevent robbing, especially when removing surplus. Any exposure of combs and honey, even for a few minutes, will attract numbers of bees, who are on the prowl, and in a very short time a first-class robbing boom will be in progress. Always use the super-clearer for removing surplus, and if help is available two will make a quicker and neater job of it. Put the clearer in position either very early in the morning or in the evening, preferably in the evening, and take off the super the next evening. A few days ago a well-known daily paper gave an illustration of removing surplus showing a couple of bee-keepers, one with a smoker and the other brushing the bees from a shallow comb on to an extended alighting board—a very good illustration of how *not* to do it.

Any colonies that still need requeening should be attended to as soon as possible. It is advisable to get the new queen settled down and breeding before winter. There is no fear of her laying enough to impair her powers for next season. Those who rear their own queens will, of course, have noted which stocks have done the most and have been the best all-round during the past season, and will reserve them for both queen- and drone-rearing next year.

A Dorset Yarn.

At Swanage horticultural show there was not much fruit on the tables—the committee were disappointed with so few entries: "Have you got any bees?" The answer was "No, we want to start a branch association." The secretary had invited me to bring some honey, as there were so few entries for vegetables. Everyone knows it is easier to teach by the eye than with speech. Standard bars, shallow bars, 2 lb. and 1 lb. sections, with plenty of extracted honey gave the visitors a chance to see what bees would do. When advising them to let the bees work for them, so many did not want to do a lot of laborious work, they soon get a tired feeling; the bees would gather the honey for them to sell, while the owner rested. In showing the capped combs, all cemented over so as to keep any length of time, one man asked if the bees even put it in the bottles for me. They may have been "pulling my leg," but the man's face was quite serious. This brings me to what I want to put before the Editor of the B.B.J. Could you not have a few short pars on one slip of paper, as many traders do, to sell their merchandise, or as politicians do to let the public see their policy for the well-being of the State? If I sold hives and bee goods, as many traders do, I should soon get out a sheet of short pars to induce the public to take up bee-keeping, as, "Do not keep bees, let the bees keep you," etc.

A friend told me (who sells bees) that he bought a stock from Cambridge for £5. He made two nuclei, and sold them for £2 10s. each before he had them a month; he has 200 lbs. of honey from the stock, which he has not yet sold, if he only gets 1s. per lb. for it, which is low value, it would be another £10. This is what one stock has done for me—Two racks of 1 lb. sections and one rack of 2 lb. sections, and exhibited on June 7 at the Royal Counties Show, at Bournemouth. The same stock has since done one box of shallows and one rack of sections; if such as this was printed in a cheap form, I, myself, would purchase a few thousand for distribution at honey shows. Some people say they are never tired of talking about bees; if they were on about six hours at a stretch to crowds of people they would have "a tired feeling," but what we

want is to boom bees, because there is money in surplus stores. My best sections have sold for 2s. 6d., my seconds in the open markets by auction at 1s. 5d., 1s. 6d. and 1s. 9d. To induce more to take to keeping bees, one must show them the great advantage it will be to them by doing so. Many keep bees because they are interested in them, and give away their swarms not to be overstocked. One gentleman told me this only a week last Wednesday at Lychett Maltravers flower show, where Mr. Tomlinson gave a demonstration; but the majority keep them to have honey for themselves and a good lot to sell.

I was able to meet bee-keepers at Swanage who were spending their holidays in the south, and one from Sutton Coldfield, who stayed in Bournemouth, came on Tuesday to see the farm, Some were commissioned to send greetings to the Dorset yarner; one seriously queried. "Could one make a living entirely with bees?" I had to tell him sometimes there are bad seasons for surplus honey. He might get one the first year of entry in the holding. He would have to live, rates and taxes, as well as rents, would have to be met, I considered it would be best to keep to business till he was well stocked with bees and had a good honey district to live in. Of course, I know that many do nothing else but bees, but I do not know if they have other means as well.

Our bees are not adding to surplus stores, the brood-chamber in many hives is nearly full of uncapped stores, some of them have left a few combs in centre without filling, but the queens are not laying eggs as I should wish; I suppose it is so with others. One bee-keeper had to take off his sections, as they were taking down all uncapped stores. He thought they would empty the others. It is seasons like this that we get so many unfinished sections; we keep these for "bait" to start another season; they are sure to take out all that is not capped. Some stocks that had the standard combs given back to them after extracting are having a dark-coloured honey stored, but I cannot tell from what they get it, as there are so few on the Ling heather up to now. This is now opening beautifully, but there are not the bees on it; winds have been very strong this last week; all this is against them working. The Blacks seem to be the most active this last week, the banded ones are in great numbers on tops of sections and bars beneath the glass cover, but they seem slower in movement, as if they were on strike. Drones are still being killed off and driven out; the cold nights are responsible for this.

J. J. KETTLE.

[Mr. Kettle's idea of the printed slips is a good one, but appears to us to be more a matter for the manufacturers and dealers in appliances than for us. We would rather do something to promote the greater use of honey as an article of food. We are not quite in favour of giving too much publicity to the comparatively few large takes of honey. It is likely to give a false impression of the possibilities of bee-keeping. While it is quite possible to occasionally get a return of £15 in one season for the outlay of £5 on a stock of bees, no one who has kept bees for even one year only, would expect to do that with every hive, every year. Our opinion is that the publicity given to the few large takes of honey—upwards of two or three hundred pounds weight per hive—does harm to bee-keeping generally, in that it attracts many, whose "bump" of cupidity is well developed, to start bee-keeping, not from any love, or aptitude they may have for the pursuit, but because reading these reports they imagine bee-keeping is a short cut to a fortune, only to become disillusioned and disgusted later, then the bees are neglected, probably become diseased, and are either left as centres of infection, or are sold off cheap to other beginners, possibly spreading disease far and wide, and leaving their original owner poorer, if not wiser.—EDS.]

Jottings from Huntingdonshire

First let me reply to Mr. Illingworth *re* skep-reared queens. Keeping bees in skeps may be old fashioned—more old fashioned than wearing clothes is to Britons—but it is not putting back the clock where a skep or two of bees are kept in one's apiary for producing good swarms and first-class queens. Skep-reared queens are unsurpassable, owing to the fact of their being bred more true to nature. It is impossible to conceive of the dome-shape skep being adopted by bee-keepers for generations if it were not that it suited the bees so well. Old fashioned as our grandfathers were, they would have as certainly adopted square skeps with slanting roofs, or box hives, or zinc if, in the passing of time, it was noticed that bees thrived better in other homes than the dome skep. Bar-frame hives are so much to be preferred to skeps for general bee-keeping that no up-to-date bee-keeper would dream of discarding them. Movable combs, removing easily surplus honey, ease of manipulation, plumbing and cleansing, their adaptability in general, mark them down as a permanent adjunct to successful bee-keeping. Furthermore, I have no bone to pick with those apiarists who go in for scientific queen rearing—I have raised a few queens myself—nor do I rail against queen nurseries, hatching cages, incubators, artificial nurturing, what I say and still maintain is that skep-reared queens can and do eclipse the average queen reared in bar-frame hives, whether under the swarming impulse or otherwise. If Mr. Illingworth will look up the *Bee World* of September last he will note that Mr. Prothero, of U.S.A., states "Queens reared in skeps are predestined for royalty; they are consistently well-fed and nurtured; they are thoroughly incubated in a large cluster; when hatched they immediately receive attention from nurse bees of the right age. . . . It is quite possible to raise queens carelessly and cheaply, at one fraction of the trouble and expense enacted by the best methods." The editor of the American *Bee Journal* also

tells us that he, having tried a queen nursery, succeeded best when he kept close to nature, it being necessary that newly-hatched virgins be fed on royal jelly. It may be said this care can be bestowed on queens reared in hives under the swarming impulse, but bees cannot cluster in hives as in skeps, or shall I say cannot regulate their cluster in the former as in the latter. It is known that many hens' eggs, the contents of which are incubated, will turn to chicks lacking the power to burst their shells, would, if placed under a hen, have successfully hatched out—there are times when it is necessary to keep close to nature.

I should now like to give my opinion on the point raised by C. C. Felin in last week's *Journal*. To begin "Swarm cribbing" is immoral, and is certainly not playing the game. However, when one has many stocks and is away a great deal it is not blameworthy if he keeps during the swarming season, two or three hives fitted up with frames of foundation or drawn-out comb with the hope that any swarm issuing during his absence might take possession. But to put hives out fitted and with a bait of honey for the purpose of attracting swarms, your neighbours or otherwise, does not harmonise with the meaning of the words "fair play." I regret to say that I have met people who have deliberately done all they could to catch a stray swarm from a neighbour's apiary.

As for distances a swarm will travel I have followed a swarm for over two miles before giving up the chase. I gave up because, while able to keep them in sight cycling along a road—there came a bend in the road which necessitated my taking to the fields, and on foot was unable to keep pace with the swarm. One man has never forgiven me for reproving him when keeping a swarm which he knew came from a neighbour's hive, the neighbour being away at the time and was therefore ignorant of his loss. To the man who has only a few hives and wants increase I would say, if you are not able to be always on the spot, get someone to watch for you—failing this, increase by division and so do away with swarm possibilities. Even where bees are in a skep and swarming imminent; if a piece of comb containing a queen cell is carefully skewered into an empty skep placing the said skep on an old stand, the original skep being moved away, will ensure an artificial swarm. The idea some people have that artificial swarms must have the reigning queen with them or else they would desert the hive cannot be proved by experience. It is essential that we have *esprit de corps* among bee-keepers. "Swarm cribbing" destroys this spirit. Be fair and square, if a strange swarm comes your way, enquire if any one has lost one. Never mind the law of Justinian. We ought, in this, to show ourselves superior to the law of the land.—E. F. Hemming, Steeple Gidding.

Most Amusing.

A lady mentioned to my son-in-law that she had got some bees, and that they were Italians (so she had been told), but admitted she did not know much about them. My son-in-law informed her that he knew someone who could give her some advice and help. I was asked to kindly call one evening, so one evening last week I started for the visit with my veil in my pocket. Arrived at the house the lady and her husband were very pleased to see me, and straight away we made for the garden. Looming in the distance a spick-and-span new up-to-date hive caught my eye. On a bush in the garden several bees were busy honey gathering. "These are some of our bees," said the gentleman. I said: "You cannot say that without there is a doubt, other people's bees come into your garden, and these are not Italians, they are hybrids."

We are now nearer the hive; a saucer of water I note on the ground at side of hive, also some granulated sugar on the hive front at entrance. I said: "I notice you are looking after them, how did you come by them?" "Oh! we got them out of the rockery, I scooped them up with a spoon." I became suspicious, and I asked, "Where are the bees? I don't see any coming in or out," "They are in the hive," said the lady. I put on my veil ready for an expected onslaught, but I whispered in my son's ear, "Pound to a penny they are humble bees." I lift the roof, then the quilt. A nice rack of sections with full sheets of foundation. I take the rack off, behold! ten frames with full sheets of foundation, a truly nice hive, total cost just on £3, but I said: "Where are the bees?" "Oh! down in the corner." I lift out the frames, and sure enough in the left-hand front corner was a little nest of humble bees. Queen and about a dozen bees and comb, all would go in a tea cup. They all turned on their backs when disturbed, and they were nearly all yellow (that's why they were called Italians). You should have seen how surprised they were when I said, "They are humble bees." Poor hubby more so—let in for £3 outfit! Anyhow, to cut a long story short, the lady is very enthusiastic about bees, and, having got the hive, I hope to send her a good stock to start well. When I told her she wanted 20,000 bees in the hive, not 20, she and hubby were dumbfounded.—A Wood.

Errata.

In our article last week, "Two Pictures," the name of the bee-keeper should be Mr E. Mant, not Maul, as printed.

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of July, 1921, was £4,324.—From a return furnished by the Statistical Office, H.M. Customs.

Notes from North Devon.

Cost of Appliances.—I have been comparing prices for 1913 with 1921. Two articles that are absolutely necessary, viz., *Sections* in 1913, 23s. per 1,000; 1921, 127s. 6d. Bottles in 1913, 13s. 6d. per gross; 1921, 50s.

Of course, we all know the rise in cost of everything, but very few have increased so enormously as this. Could not the B.B.K.A. investigate to ascertain if these prices are really necessary? Considering the heavy losses by bee-keepers for many years, due to "Isle of Wight" or acarine disease, it would appear the profiteer is out to grab the little we have left. Bee keeping is the country cottager's hobby for pleasure and profit, but present cost of re-stocking is beyond his means, which is most regrettable.

Re-Legislation.—There's an old saying. "If you want anything done, do it yourself," and it seems to me that is what bee keepers will have to do. Mr. Asquith's Government had no time; present Government have not the money. Now, why should not a Bill be passed giving power to the B.B.K.A. to do what is necesary on the same lines as your report of what has been done in Switzerland. The Government could make a grant, and as they would be relieved of cost of highly-paid officials, they should pay a substantial sum. The Ministry of Agriculture leaflets are good, but power is wanted to carry out the suggestions, especially disinfection of hives in which bees have died and destruction of infected combs.

I've been a bee-keeper for more than 50 years, and am still learning. Twice I've lost all by "Isle of Wight" disease; last year was the worst I ever experienced. I've taken the BEE JOURNAL for many years, and frankly, I don't think it is so instructive as it was years ago. You must bear in mind as we old ones pass away young ones take our place, and a few useful hints would be most helpful. I miss many of the old writers. . . I read Mr. Hemming's Notes and the Dorset yarns first; it seems to me botany, gardening, and bee keeping go hand in hand, and these two writers sort of blend them together, which is both interesting and instructive. The Violet Farm appears to be an ideal place for bees, fruit and agriculture. Here in North Devon we have some warm valleys with high hills on which the cold winterly winds linger into late spring. This year the East wind was bitterly cold as late as June. Still, the bees are thriving, although not so numerous as, say, ten years ago, before acarine disease came.

I had a new experience early in June. A neighbour said my bees had swarmed and were in his garden. I examined, but could not tell from which hive they came. One was weak and had little brood, and several queen cells, but no eggs. I hived the swarm, and they were contented all next day until five o'clock, when they swarmed out and went into the weak, queenless hive. Evidently they had raised a queen, which, going out to mate, had caused the bees to swarm. They are now doing well.

I bought my first swarm in 1864 for 10s., which was the price of first swarms in May or June. About 20 years later I adopted the standard frame hive. Of course, I've had ups and downs. Some years good, and another I've had to feed all through summer. It's only the last 20 years bar frame hives have become general here, but most have gone. Ten years ago there were over 100 hives, now not more than a dozen in the parish, but many of the hives are still in the gardens where the bees died. No wonder the disease is still amongst us. It seems to thrive best in wet weather, like last year. A pity there's no real cure. I tried Flavine and Bacterol; finally flowers of sulphur, which stopped the crawling.

N. DEVON.

Is It Playing the Game?

I intend later to again contribute more Jottings from Ashdown Forest, but being one of the greatest sinners in respect of using decoys, C. C. Felin's letter, 10497, and editorial footnote induces me to air my views in the matter. In the first place I would say, like "C. C. F.," I am always open to restore any swarm reasonably claimed; also I would not use a decoy where I manage for other people, other than where I am satisfied they would do likewise. I need them at home as so often there is no one at home, as I am so frequently sent for to see to other people's swarms, my own in out apiaries, and other people's that are more or less unattended. I put up everything available that any swarm coming off and settling unattended may be able to find a home for themselves, many losses being thus avoided. Now for a point more to the point as to its being "*Playing the Game.*" More than once clients' apiaries have lost the whole of the bees and been restarted by vagrant swarms taking possession. I will give just one instance. Lady —— (whose bees I have managed entirely for twenty years or so). I had to inform her the whole of her strong apiary had succumbed to "Isle of Wight" disease in common with practically all others. I did not feel justified in advising her to buy more bees, so she told me to clean up and store the lot in a loft. After cleaning to my satisfaction I left them *till I had more time*, thinking there might be some poor homeless, tired bees badly in need of a home. Not long after a messenger arrived in great haste, asking me to come at once as there was a swarm in their garden settling all over their hives. On arrival, yes they were there all right, but gone into the worst hive in which I had placed the dirtiest combs, intending to set fire to when the others were out of the way. They went on well, hives and more were all restocked, lots of honey has been since taken, and bees disposed of, but what a calamity it is when a swarm comes off and they are

seen to fly away before I can get there to secure them! I can only hope somebody is better off by the arrival of a swarm to which nobody will lay claim

Now I will give another different case. A bee-keeper village blacksmith's bees swarmed I think after going back once, and were seen to go into a hive belonging to a *prominent* villager about 100 yards away, who declared he had bees of his own in the hive The blacksmith didn't know how to distinguish and separate his own, so he left them, but as he said he "didn't like it, and didn't want any row," I told him he had left it too long for me to help him and pointed out I should have gone to Mr. X. and politely asked him how long his hive had had bees in, and show me the inside of the bar-frame hive. If there was brood I should have told the blacksmith, his bees *not* being *marked*, or of a different kind, neither could I distinguish or separate them. But if no brood or store, I should say the bees doubtless all belonged to the blacksmith.

I believe bees with a young queen will travel several miles after once becoming *vagrant, or lost swarms.* They may settle and send out scouts several times before deciding on a suitable home. On arrival I have frequently found vagrant bees very worn and tired, and unless brood and store is given them they are of very little value.

Myself, though I have at present about fifty stocks, I would rather have decoys placed by neighbours all round me than not, as doubtless I could have them *if followed and seen to go in;* if they go away unseen, they have simply swarmed and gone.

Just one more point, which I hope will get *full discussion.* I have the opinion it is Nature for a queen to go away in disgust at the presence of rivals in the hive, only to return when she is out again with a "maiden" swarm, or even next year, to see if the old home is available for her to reign supreme. It could be proved easily enough by marking queens.—A. J. RIDLEY, Horney Common, Uckfeld, Sussex, August 13, 1921

Moorland Notes.

Once again my bees are on the heather in the old place, not far removed from our friend, Mr. Tom Sleight's moorland location. This time I moved them on a Ford lorry. What a change from the old days when I used to take nearly the whole day to transport the hives, and arrived on the moors, as they say in this part, "totally done up." A friend and I joined forces for the journey. The lorry easily held ten hives, and we were on the moors within an hour and a half of starting from home. There was no hitch whatsoever No fear of the pony bolting, upsetting the hives and being stung to death. No fear of him jibbing in the middle of the hill and having to be pulled up the remaining mile or so by an extra horse. No fear of heavy combs breaking down and suffocating the bees through long confinement. When it comes to moving bees, give me the motor every time

This great "flitting" took place on August Bank Holiday. The heather was nearly out, and already the moors were taking on their purple hue—all ling, no bell-heather. The only little spot where bell-heather used to grow had been burned out Given good weather, it looked like a bumper year on the moors. Whether we are to have that or not is yet to be seen, but to-day, the TWELFTH, I find that honey is being stored in large quantities in the end hives. The bees must have worked hard between the showers, but I cannot say that there is any really definite and pronounced honey flow on such as I have seen at times.

This gathering of honey in the end hives of a row is a thing I remember commenting on some years ago. I believe that even in the home apiary bees will migrate to the end hives, but it is not so pronounced a movement as on the heather. It behoves new bee-keepers to beware when first moving to the moors. Allow no one to place a hive at the end of your row, or you will provide the bees and they will get the honey. Of course, *you* will not do the trick on anyone else, any more than you would put out hives to catch stray swarms.

The end hive of which I speak has now two supers of shallow bars, and looks like needing another. And I believe that it has twice as many bees as when put there.

The honey is lighter in colour than any I have yet known. Of course, it is difficult to judge it in the comb, but it appears to be of a decided amber colour, very little darker than clover honey; certainly not the rich red I have always associated with heather honey.

I have this year realised a wish of long standing. I have had a camp on the moors. If only the weather had been better, all sorts of things might have happened. But the day of days was Sunday, when I saw Mr. Sleight come bowling down the hill towards the tent on his cycle. After exchanging greetings, we decided to explore the country round, and had just started when a storm came on. Then a bee-line to the tent, where we had to remain two or three hours until the breaking of the storm allowed friend Sleight to return home. But the time was not wasted. I was a better bee-man for the chat, and perhaps Mr. Sleight learned a little from me. At any rate, bees, honey, flowers and bee-keeping experiences were the only subjects of conversation all the time; so much so, that my boy who was there remarked afterwards, "You talk nothing but bees; it's sickening."

He was quite an enthusiast himself until a fortnight ago, when his first real stinging somewhat damped his ardour, but he entered into the idea of a bee-camp with zest, although I think the novelty, rather than the bees, attracted him.

Now I am back at home preparing for the annual holiday with "the missis." But wherever I may go I hope to keep one eye at least for bees, bee gardens, and bee-keepers, and I am sure that my thoughts will be wandering back to the field on the edge of the purple moors, a line of hives, a good week of honey-flow (I hope), and (I hope again) a bumping crop at the end of it all.—D. WILSON.

Notes from Gretna Green.

The rain it raineth every day and every night as well, so the bees are at present merely marking time.

Our colonies secure the precious heather honey from their summer stands, and there are decided advantages attached to having the bees close at hand.

No one can tell when the heather flow will come, and in some seasons prompt action is required to make the best of a short honey flow. I have practised uniting two adjoining stocks in one just as the honey came in, putting all the bees with one queen on eight combs of brood. All capped brood was massed in the centre, flanked by combs of unsealed larvæ, and, theoretically at least, this manœuvre should have diverted all the incoming honey to the sections.

In practice it was found that the centre combs were blocked with heather honey, while the queen was still laying in the very outside combs.

I am now experimenting with two united colonies, while retaining both queens in a ten-frame hive, each queen on five combs of brood, and expect that the combinations of uniting and dividing will give satisfactory results at the heather.

The clover crop has been extra good, one colony (Italian) with its subsidiary (Punic) giving me 160 sealed sections and the 80 still to come off.

My sales of honey to date amount to over £15.

I can assure a recent critic that my colonies are immune and cannot be infected with "Isle of Wight" *while the original queen continues to reign.*

These special queens are obtained from Mr. Smith yearly, and as I don't rear any there can be no question of aristocratic princesses being mated to common black drones from the adjoining apiary. This matter appears to be of interest to a number of people, and as a means of avoiding private correspondence I suggest that Mr. Smith might be invited to write on the subject for the benefit of "B.B.J." readers.—J. M. ELLIS, 4/8/21.

[We shall be pleased to publish any information Mr. Smith may feel inclined to give on this, or any other bee-keeping matter.—EDS.]

Jottings.

Bee Mistakes.—It is a somewhat bold undertaking to try and describe these, still more to find the cause leading up to them. I have been struck with the frequent occurrence of queen cells being sealed with no sign of a grub in them, cells apparently new and fully developed, on one or two occasions last year, and were the cause of delay in requeening. In another instance a colony was motherless over two months after a cutting out operation.

Readers may think this mistaken assistance and interference with nature, as the bees might have succeeded in this instance if left alone, but two cells were left, and these were intact, but empty. In another instance this year the colony threw a swarm and a cast. On examination two months afterwards I found no queen, plenty of drones, and three of these unbroken cells, and a fertile worker carrying on; a fertile queen and two frames of brood were given in this instance, with a good interchanging and flouring of all the bees, which was successful. Is it because the cell walls get elongated by one set of workers before the nurse bees certify the amount of food necessary, or that the necessary egg is present, and the larva not able afterwards to reach the base? But surely some better system than this arranges for the full course of food to be administered to the necessary occupant before sealing up? I give it up. Anyone else seen similar cases?

Another deduction may possibly be that a number of bees join the queens on the wedding flight, and if these are fairly equal in age, the best survives or leads the after swarm, and a possible mother of the old colony gets destroyed. But why the empty cells?

[Our own theory of the empty sealed queen cells, which are not at all uncommon, is that the lid of the cell is accidentally forced back into position by the press of bees, soon after the virgin queen has left it, and the joint is then sealed with wax. This sometimes occurs after a worker bee has entered the cell, and will account for a worker bee being found, either dead of alive, in a queen cell. The head of the worker is usually at the base of the cell. These "dud" cells may generally be detected if a careful examination of the tip is made, as there is a faint mark round it where the joint of the lid is sealed; the point of a penknife or a pin will decide the matter. The cap of a cell containing a queen is not easily removed. The "dud" cap is The disappearance of the young queens cannot be explained; they may be lost, or snapped up by a bird.—EDS.]

Surplus.—The continued drought will be responsible for a good deal of food shortage unless stocks are thoroughly overhauled shortly, as in cases where a good queen is in possession the hives are full of brood, and the sudden stoppage of nectar is inevitable when the limes complete their course, and the novice must remember that surplus commences when the colony's needs are arranged for the next eight months in most districts,

irrespective of the present position of stores, which must be adjusted and not taken from the surplus chambers, because it is found there; second crops of ground fodder are no doubt a failure this year, and this is where winter stores largely come from. Bees get rather cross at this time, and too often suffer in consequence through insufficient examination of brood comb stores.

Tanging Truths and Possibilities.—A swarm issued the other day and decided to go into a neighbour's garden. After a deal of preparation, and shading had been arranged to keep them quiet, as they had responded to the stone and shovel, the bees became uneasy, and took to flight. Tanging was resumed, and I was assured the bees ran admirably into the hive again. Next day, of course, history repeated itself, and the bees, in spite of an inclination to go to the former spot, were led to hover over a home apple tree, and as this was rather high, were led to a more appropriate and shady height in a lower tree. I am informed it is a question of *tune*, as well as *implements*, and one must stand quite still to accomplish these possibilities. What part the bees or queen had in these arrangements must be conjectured. I assisted with the tanging, but as I had the wrong tune, the bees were some time in settling.—A. H. HAMSHAR.

Echoes from the Hives.

The heather honey flow began to-day, and after a while of enforced idleness bees are hard at work again. Hives overflowing with bees and the foragers flying in crowds reminiscent of swarming time.

All colonies are contracted to five or six combs of brood and brood box in single-queen hives, filled up with full sealed combs of clover honey. Clover sections have sold readily at 24s per doz. my sales to date being almost £38, and more still to sell.

Heather sections will probably make 3s. each.—J. M. ELLIS, Gretna, August 13.

Am sending a brief record of the work of the bees this remarkably dry season. For a long time it looked like being a poor honey harvest, but I think the lime trees saved the situation. A stock of *Ligurians*, after partly filling a rack of sections and starting on the second rack, sent off a swarm and a cast, both absconding.

A very small swarm of *Carniolans*, hived May 23, and hardly covering three combs, packed the body box of ten combs with brood and honey, sealed 21 sections with the whitest and most even capping possible.

The British Bee.—I never remember having more than 21 sections from a swarm at home. This year one swarm, hived June 3, completed 42 sections and 12lb. run honey; another, same breed, hived May 23, fully sealed 57 sections and a few not finished. This lot was hived by an expert, who most of us think is the leading apiarist of the day.

Am pleased to say all stocks have plenty stores for winter.—DAVID HANCOX, Deddington, Oxon.

Honey at the Bletchley Show.

The annual honey show was held at Bletchley Park on August 1, 1921. The weather was perfect, and there was an attendance of about 15,000 people. The honey classes were well filled, about fifty entries all told. A splendid show of honey and wax and bee appliances was staged by the well-known bee-keeper, Mr. A. E. Warren. A three-frame observatory hive was a great attraction, and the exhibits drew a good deal of attention.

The awards were as follows:—

Class 1.—4 1-lb. Sections (7 entries): 1, S. J. Randall, Asply Guyse, Beds.; 2, J. Kent, Milton Keynes; 3, E. S. Bond, Woburn Sands, Beds.

Class 2.—4 Bottles Light Honey (15 entries): 1, Mrs. Short, Caffy Hall, Bletchley; 2, G. M. Good, Broughton Manor; 3, W. Goom, Bletchley.

Class 3.—4 Bottles Medium Honey (13 entries): 1, H. F. Rainbow, Wolverton; 2, J. Kent; 3, A. Eggellton, Bletchley.

Class 4.—1-lb. Bottle (16 entries): 1, W. Goom, Bletchley; 2, J. Kent, Milton Keynes; 3, W. Short, Caffy Hall; 4, J. Cliffton, New Bradwell.

Prizes in class 4 given by Mr. A. E. Warren. The honey in this class was sold, and the proceeds, amounting to £3 2s., sent to hospitals.—*Communicated.*

Huntingdon Bee-Keepers' Association.

About two dozen members of the Association journeyed by motor char-á-banc to the home of their President (the Rev. E. F. Hemming) on Wednesday, Aug., 10, where the reverend gentleman gave a most instructive demonstration. Before getting among the bees he gave us a lecture on uniting, and exhibited several things of interest, a honey press, Rymer board, aluminium combs, Swiss hive entrances, queen cages, uncapping knives, etc. On being asked why his hives were distributed about instead of kept in one spot, Mr. Hemming replied that it saved the virgin queens, and also helped to keep the strains pure. He kept five varieties of bees because it was a fascination to watch different breeds side by side, and to note how one breed did well in a season where others failed, and so forth. On going through some of the hives there was much amusement caused by looking out for the faults which our host said he had arranged for the observant. Some were easily detected, others were difficult to observe. They were as follows of the eleven hives opened:—1. Bad spacing; 2. Drone comb in brood nest; 3. entrance too contracted; 4. brick placed on centre of roof; 5. faulty quilting; 6. frames of three types in one hive; 7. entrance exposed for wasps; 8. sections placed right angles to frames; 9. faulty queen excluder; 10. covering too heavy; 11. Roof cone in wrong place.

The company was much interested in the Dutch skep and its three entrances. Mr. Hemming pointed out that, although all three entrances were used in the height of the season, the lower entrance was now sealed up and the middle one was being sealed, the bees leaving the top one open, which went to show that where bees had a choice they choose the highest entrance to their home. An old observatory skep also proved interesting, especially to the ladies.

At the close of the demonstration the Rev. J. Snitch proposed, and Mr. Emery seconded, a vote of thanks to their President for his kindness, and to Mrs. Hemming who had so ably catered for their creature wants. It was a great pleasure to visit Steeple Gidding, to breathe the pure air, take in the view, and to be instructed in the ways of bees about which there was always something new to be learned.

Mr. Hemming in responding said he and his family had much enjoyed the visit of his fellow-members, and he hoped that they would find their way hither next year, if possible in June, when the country was at its best, which gave an ideal setting to things of interest they had not seen that day owing to lack of time on that occasion —*Communicated.*

Two Queens in a Hive.

[10502] On Tuesday, when about to remove my bees from an observatory hive, I decided to make a nucleus of it. I put them in a hive, and went to see if the one they came from could spare a comb of brood, and to my surprise found they had a laying queen exactly like the one in the glass hive. There was no sign of queen cells, so the two queens must have been living peacefully together for some time. It is strange I was thinking of writing you about it when I saw Mr. G. Flashman's note in B.B.J., "Two Queens in a Hive." I should value your opinion if I may ask it. —GEORGE BRITCHER.

[It is quite possible there had been two queens in the hive, a condition that has been more prevalent this year, or bee-keepers are becoming more observant.—EDS.]

Uniting.

[9927] (1) Please be so kind as to tell me if queens and drones can pass through a Porter escape.

A friend wanting to unite the bees in a skep to a weak hive, put an A.Z.A. wintering board, with the excluder slide closed, over the frames. The escape was blocked with a cork, and the skep put on top and left 3 days and a-half, when, on lifting the skep it was found the bees had eaten out the cork. The floor of the skep was covered with dead bees and the escape choked with them; also a piece of comb had fallen.

The idea was they would get air from below, and the scent of the hive, through the perforated zinc of the board, and go down peaceably through the escape when unblocked in three days—without being able to go up again. (2) Was this wrong?

The dead bees were not torn or injured, but their bodies had shrunk and become black and shiny. There was no honey in them though the skep is nearly full. The live bees were all right and plenty left.

I am most anxious to know what was done wrong, as I want to join two strong swarms on frames in rough boxes to two W.B.C. hives, also strong with young queens, and I thought of using this board with an extra brood chamber over. It seemed a simple way to one as yet utterly unskilful.

(3) There is also a three-inch square of queen excluder slide. Would it be best to open that and not the escape in my case, since their coming back would not matter?

(4) Would a shorter period than three days be enough?

(5) Could I do it soon without risk of making them swarm from over-population?

(6) Would it be safest just to put an excluder on the bottom box, and one thickness of newspaper over it, and then the swarm on their combs and leave it to them? —R. RAMSAY.

REPLY.—(1) Queens and drones can pass through a Porter escape—if they will. (2) The mistake was in confining the bees to the skep too long *without top ventilation.* The bees would become excited and over-heated. The latter would be aggravated by the heat rising from the box below until finally the bees in the skep would be suffocated. We have not tried the "A.Z.A." hive board for this purpose, but should say twelve hours would be long enough to confine the bees, half that time might suffice. (3) It would be better to open the slide over the three-inch hole, the zinc queen excluder slide might be left in position if desired. In the case of the skep, or if it is desired to eventually clear the bees from the upper box, it would be better to cover the opening of the Porter escape with a piece of tin long enough to project outside the skep, or box, then, after the bees have fraternised for, say, 24 hours, the three-inch hole could be closed, and the escape opened without disturbing the bees. (4) This is answered under query (2). (5) You may do it any time now. There is very little fear of them swarming if not overcrowded. (6) In theory the board should be the safest, as the paper will for a time stop all ventilation in the upper box.

Notices to Correspondents

R. I. H. (Islay).—*When bees are working the heather.*—The colour of heather honey varies slightly in different districts and in different seasons. It is usually a rich dark amber with a reddish tinge. That from bell heather is thinner than ling honey; the latter is gelatinous. They are much alike in colour. (2) We do not see how this could be done, as the number of bees flying would depend on the strength of the colony. A bee returning home loaded drops rather slowly and heavily on the alighting board with the abdomen inclining downwards. If you turn back the quilts the aroma will tell you at once if bees are working the heather. (3) No

F. C. (Stockport).—*Keeping mead in bottles.*—It will be quite safe to keep the mead in glazed stoneware bottles.

"UARA" (Brewood).—*Toads and bees.*—Yes, toads will eat bees.

H. T. B. (Sussex).—*Clearing honey vinegar.*—Dissolve a little isinglass in hot water and stir into the vinegar.

E. B. H. (MISS) (Westmorland).—*Extracting wax from old combs.*—If the combs are very old it is doubtful if the quantity of wax obtained from them will pay for the trouble. Break the comb and soak in water for 24 hours before extracting. Use steam, or hot water. A Solar wax extractor is not suitable for old combs. You will find full particulars in "Wax Craft" Chapter iii., on wax rendering.

T. T. F. (Oxford).—*Honey dew for bee food.*—Honey dew honey is *not* suitable for winter stores for bees. It is likely to cause dysentery.

"ESSEX" (Leyton).—(1) The idea is quite sound. (2) Yes. You could do it without shallow super between.

R. PHILLIPS (Salop).—(1) Not always. (2) They have not been tried long enough here for us to say.

Bee Shows to Come.

August 20, 1921, at Ammanford.—Carmarthenshire B.K.A., in connection with Ammanford and District Horticultural Show. Silver and Bronze Medals for Members' Classes. Open Classes for Honey, Wax, etc. Good prizes.—Schedules from W. Comery, 15, New Road, Ammanford. **Entries closed.**

August 24, at Prestbury (Glos.).—In connection with Prestbury Flower Show. One Open Gift Class for 1-lb. bottle. No entry fee. Prizes: 1st, 10s. 6d.; 2nd, 7s. 6d.; 3rd, 5s.—Schedules from A. H. Bowen, Coronation Road, Cheltenham. **Entries closed.**

August 27, at Hinckley.—In connection with the Hinckley Sweet Pea and Rose Society's Annual Show. Open to all bee-keepers. 1st prize, 12s. 6d.; 2nd, 7s. 6d.; 3rd, 4s.—Schedule from A. Kimbrell, Clarendon Road, Hinckley.

August 31, at Chester.—Cheshire Bee-keepers' Association, in connection with Cheshire Agricultural Society. Several Open Classes. Good prizes.—Schedules from T. A. Beckett, St. Werburgh Chambers, Chester.

Saturday, September 10, at Brentford.—Middlesex Bee-keepers' Association, in conjunction with Brentford Allotments Association's Annual Show, at Wesleyan School Hall, Clifden Road. Five Classes for Honey. Open Classes: One 1-lb jar of 1921 extracted honey, one 1921 section, one aluminium semi-comb of capped honey. Classes confined to members of the Middlesex Bee-keepers' Association: One 1-lb. jar of 1921 extracted honey, one 1921 section. Prizes: 10s., 5s., 2s. 6d. each class, and bronze medal of the British Bee-keepers' Association for best exhibit. Semi-comb prizes: £1 1s. and 10s. 6d. No entrance fees. Exhibits (excepting semi-combs) become the property of the above-named Associations.—Entries, to be made on a postcard, to R. R. Babbage, 33, Whitestile Road, Brentford, Middlesex. **Entries close September 5.**

September 17 to 23.—British Bee-keepers' Association Annual Show at Grocers' Exhibition, Royal Agricultural Hall, Islington, London. Entries close September 5. Schedules from Hon. Sec., B.B.K.A., 23, Bedford Street, Strand, London, W.C.2. **Entries close September 5.**

September 21, at Altrincham.—Altrincham Agricultural Society. Largest one-day Show in England. Several Open Classes for Honey, etc. Good prizes.—Schedules from Herbert Turner, 1, Market Street, Altrincham.

Saturday, September 24, 1921.—Staffordshire Bee-keepers' Association. The Autumn Exhibition of Honey, etc., will be held in the Technical Buildings, Stafford. Seven Classes for members only. Also for the best exhibit of honey in a metal comb, open to the world. Entrance fee 1s. Prizes, £1, 10s., and 5s.—Schedules from the Secretary, W. Griffiths, Solway House, Silkmore, Stafford. **Entries close September 22.**

October 1, 1921 (Saturday).—Harrow Bee-keepers' Association, in conjunction with Harrow Horticultural Society, at Greenhill, Harrow. Class 42, Open to the United Kingdom, one section of honey, 1921. Prizes: 20s., 10s., 5s. Exhibits become the property of the above Association.—Particulars from J. L. Rogers, 289, Station Road, Harrow. **Entries close September 28.**

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 7s. per ¼in., or 12s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens** *that are reared or imported for sale, are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on MONDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

FOR SALE, Spaniel Pups, black and white, good working strain; would exchange one for good Extractor, also young Ferrets.—LEE, Red Steads, Lowick, Berwick. s.57

4-FRAME EXTRACTOR, £5; large Ripener, 25s.; never used. DAWSON, Market Hall, Newark. s.58

HEALTHY DRIVEN BEES, 10s. 6d. per lot, carriage paid; boxes free; immediate delivery.—W. BARNES, Exning, Newmarket. s.59

FOR SALE, pure extracted Welsh Honey, 1s. 6d. per lb., carriage paid.—MORRIS, Penrallt, Henllan, Cards, S. Wales. r.s.32

1 CWT. guaranteed pure light Welsh Honey for Sale in 56-lb. tins, 1s. 6d. per lb.—HOUSE, 6, School Street, Pontyclun, Glamorgan. s.61

FOR SALE, six 1921 fertile Italian Hybrid Queens, healthy and prolific (Simmins' strain), 5s. 6d. each.—WILLIAMS, 17, Aveling Park Road, Walthamstow, E.17. s.97

FINEST light coloured Cambridgeshire Honey. £8 per cwt.; tins free; carriage paid; sample 6d.—W. BARNES, Exning, Newmarket. s.60

Fertile Italian Queens. 8/6. Delivery by return. PEARSON & GALE, Marlborough.

A FEW surplus Dutch Stocks on standard frames, headed by imported skep-reared Queens, for Sale, £3 10s. per stock.—DAVIDSON, Forest Road, Burton-on-Trent. s.62

FINEST BERKSHIRE HONEY, in 28-lb. tins, 1s. 3d. per lb.; sample 1s.; reduction cwt. lots. —H. BOWREY, Swallowfield, Reading. s.63

FOR SALE, pure English Honey, £7 per cwt., free on rail; sample 9d.—LAW, Cuckoo, Ashwell, Herts. s.64

HONEY FOR SALE, about 5 cwt. What offers? Good quality; free on rail.—HISBURS, Buckland St. Mary, Chard. s.65

SURPLUS.—Two 5-frame Stocks, very strong, from double queened stocks off the heather, £2 10s. and £2 5s.; one 7-frame Black, £2 10s.; delivery first week September; carriage paid; purchaser to send box.—MORRIS, Iping House, Midhurst. s.66

WANTED, "The Honey Bee," by Cowan, and other Bee Books.—B. FLOWER, Eastbury, Surrey Road, Bournemouth. s.67

BARGAIN.—Two Stocks Bees in 1921 skeps, 40s. each; one Stock in box, 37s. 6d.; all heavy with stores; purchasers to remove before August 25. —HULBERT, "Chalet," Warwick Road, Olton, Birmingham. s.68

MUST SELL—OFFERS WANTED.—Uncommon Milking Nanny and tasselled Nanny Kid, three months, 2 stone of Beeswax, newly-painted single wall Hive.—TROWSE, Eade Road, Norwich s.69

FOR SALE, quantity of fine Lincolnshire Honey in 28-lb. tins, price 1s. 6d. lb., carriage paid.—J. H. ROPER, Thorpe-on-the-Hill, Lincoln. s.70

BEES AND HIVES.—Eleven very strong Stocks for Sale, six last year's double walled hives, eight older hives, full winter stores; owner leaving; nearest offer £40 accepted.—GIRDLESTONE, Findon, Worthing. s.73

5-FRAME STOCK ITALIAN, prolific workers 1921 Queen, £2; carriage extra.—BRIGHTON, Bolton-le-Sands, Carnforth. s.74

HONEY EXTRACTOR wanted. — Write to HENRY OLIVER, 13, Beer Lane, Great Tower Street, London, E.C.3. s.95

FEW fertile Hybrid 1921 Queens, 8s. 6d. each.—HUNT, "Fairview," Westmoors, Dorset. r.s.18

WANTED, as a whole or any part of the following:—A 2 or 2½ H.P. Oil or Petrol Engine, with the necessary dynamo, accumulators, switchboard, wire, switches, bulbs, and other necessary fittings for lighting house with electricity; also 2-in. Force Pump for well 90 ft. deep with overhead apparatus to be driven by above engine.—W. HERROD-HEMPSALL, Old Bedford Road, Luton, Beds. r.q.31

FINE SUSSEX HONEY, in 40-lb. tins, at 1s. 6d. per lb.—ALPHA APIARY, Alpha House, Henfield. s.96

WANTED, Observatory Hive to hold three standard frames and three sections.—Particulars and price to DRAPER, Yew Tree Villas, Parkgate, Swanwick. s.98

FINEST first grade Clover Honey; sample 6d.; strong Stocks on honey combs.—NORTH, Cressing, Braintree, Essex. r.s.99

FOR SALE, Apiary of six Hives of Bees, with section racks complete.—Full particulars, GEO. HOPPER, Kidlington, Oxon. s.101

OVERSTOCKED.—Six Stocks Hybrids, in fine condition, with plenty of stores, £4 10s. each or £26 lot, carriage paid; travelling boxes returnable.—Apply, C. HART, F.R.H.S., The Gardens, Tolmers, Newgate Street, Hertford. s.100

BUSINESS ADVERTISEMENTS.
1½d. per word.

BEES.—1921 fertile Queens in 3-frame Nuclei of Simmins' Golden Italians and Dutch are bred to resist disease and get most honey. Marvellous harvest.—EDITH RIGBY, Howick Lane, near Preston, Lancs. r.s.47

QUEENS, 7s. 6d.; Colonies, 85s., 65s., plus carriage; prompt; pure Italians.—ATKINSON, Fakenham. r.s.102

THE AUGUST "BEE WORLD"—the finest number yet published. Profusely illustrated. A valuable, practical and scientific book for 10½d., post free, from B.B.J. Office. s.75

STRICTLY BUSINESS.—One dozen Flavine—S Powders, 1s.; a Jap. Sprayer, 6s.; a copy of "Let the Bees Tell You," 2s. 6d.; all post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. s.76

SERVICE AND COURTESY.—Here's the proposition. The postage and wrapping of our Acarine, 1921, Eclipse Pad cost us 6d. Send us that amount and we will forward the Pad, which is guaranteed to knock out mites and moths. If not satisfactory—silence as to the cost.—S. H. SMITH, 30, Maid's Causeway, Cambridge. s.77

EVERY queen buyer should use Bowen's Introducing Cage; absolutely certain; 3s. each.—BOWEN. s.78

25S. ONLY!—Cotswold Nuclei with vigorous Queen. Makes excellent stock.—BOWEN. s.79

AUGUST QUEEN SALE.—Send 10s. 6d. for grand Cotswold Queen with "Bowen" Introducing Cage; exceptional value.—BOWEN. s.80

"I.O.W." TREATMENT.—Circular 2d.—BOWEN, Queen Specialist, Cheltenham. s.81

EXCHANGE, strong, healthy Stocks in skeps or frame Dutch-Italians Nucleus with pure Italian Queens for good double barrel 12 bore Gun.—H. SEAMARK, Willingham, Cambs. s.82

FERTILE QUEENS.—Italian, 8s. 6d.; Hybrid, 7s. 6d.—TICKELL. s.83

VIRGIN QUEENS.—Italian, 3s. 6d.; Hybrid, 3s. —JACK TICKELL, Bee Farm, Cheltenham. s.84

SCREW-TOP HONEY BOTTLES, 1 lb., 4s. dozen, 42s. gross.—COBB, 33, Bevan Road, Plumstead. s.85

QUEENS, QUEENS.—Guaranteed genuine Penna Italians, bred and mated in Italy. I can supply these excellent Queens by return; gentle, prolific, and with a world-wide reputation, 8s. 6d. each; selected, 10s. 6d.—GOODARE, New Cross, Wednesfield.

HEALTHY DRIVEN BEES, with Queen, 9s. per lot, carriage paid; boxes returnable; cash with order; orders in rotation.—PULLEN, Ramsbury, Hungerford. r.s.21

FOR SALE, Stocks of Bees, £3 3s., and Nuclei, £2 2s.; six Simmins' double Conqueror Hive, with section racks and supers, in very good condition, £5 each; also eight W.B.C. Shallow Frames, complete with drawn combs, 14s. each, and full Sheets of Foundation, 10s. each.—E. R. DEBENHAM, Bladen Dairy Farms, Briantspuddle, Dorset. r.s.27

GLASS QUILTS, 16-in. square, divided, with feed hole, 3s. 9d. each; any size to order; Glass Squares for glazing sections, 4s. 6d. 100; cases for packing 1s. extra.—W. A. SMITH, 117, Gt. Hampton St., Birmingham. r.s.72

GOLDEN ITALIAN and Three-Band Queens, pure home-bred fertiles with finest combined guarantee; prices from 8s. 6d.—E. COOMBER, 64, Ronald Park Avenue, Westcliff-on-Sea. s.65

1921 QUEENS.—Imported Italian, 12s.; Hybrid Italian-English, 8s. each. Safe delivery guaranteed.—OVERTON & SONS, Crawley, Sussex. r.r.155

LEE'S IMPERIAL ORANGE WALLFLOWER, invaluable to bee-keepers, 6d. and 1s. packets. —LEE, The Beeman, Burgess Hill, Sussex. r.r.156

ENGLISH RUN HONEY and Sections bought and sold on commission.—HOWARD LEE, Bowden, Burgess Hill, Sussex. r.r.157

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

"UTILITY" QUEENS, 10s. 6d. each, can be obtained only from LEE, the Beeman, Burgess Hill, Sussex. r.r.106

FERTILE ITALIAN QUEENS, by return of post, 8s. 6d.—PEARSON & GALE, Marlborough. r.q.96

"THE APIS CLUB."—If you have a live interest in bee culture as a science and a craft, you should join THE APIS CLUB. Membership fee, 10s. 6d. per annum, and includes the free delivery of "THE BEE WORLD" as published.—For advantages of membership write to the Secretary, THE APIS CLUB, Benson, Oxon. r.o.37

SUMMER AND AUTUMN RE-QUEENING.—Now is investment time for next season. False economy does *not* pay. There is but one queen heading a colony, and you can only afford to have the best: *Adminson's Selected Tested Carniolan*, 17s. 6d.; prompt and safe delivery guaranteed. r.54

ITALIAN QUEENS DIRECT FROM ITALY, —Special offers from July 1 till countermanded: Four Queens at a time £1 8s. Cash with orders. Payment by cheques or British Postal Orders. International Money Orders are not accepted. Safe arrival guaranteed.—Address, ENRICO PENNA, Bologna, Italy.

FINEST ENGLISH HONEY, in 28-lb. cans, 1s. 6d. per lb.; cans and carriage free.—PEARSON & GALE, Marlborough. r.14

ITALIAN QUEENS, young, fertile, purely mated, disease free; safe arrival guaranteed, 8s. each Queen; special offer, four Queens £1 8s. —GAETANO PIANA, Castel San Pietro, Emilia, Italy. r.l.83

"WIGHT" DISEASE.—Prevention and removal. Invaluable advice, 6s. 6d. "An eye-opener."—ALF. RYALL, Whiteway Apiary, near Camp, Stroud. r.n.169

"THE BEE WORLD."—*The "winged" paper that circulates. It is read, re-read, and treasured.* Will it not appeal to you? Specimen copy post free.—Publishers: THE APIS CLUB, Benson, Oxon. r.o.36

EXCEPTIONAL OFFER.—*Adminson's Breeder Hive*, fitted with ten standard aluminium semi-combs, costs £4 2s., carriage forward. Worth double this price.—For Adminson's Hives and Appliances write to JAMES LEE & SON, LTD., Uxbridge. r.n.23

1921 PURE CARNIOLAN QUEENS.—Whether home-bred or imported, our Carniolan Queens are derived from Jan Strgar's famous Alpine strain for which we have the *Sole Agency* in the United Kingdom. Price (from June onwards), 17s. 6d. per Queen; safe delivery guaranteed. A decidedly modest outlay on an investment which more than repays.—ADMINSON, LTD., Benson, Oxon. r.n.64

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Full page	4	10	0
Half page	2	16	0
One-third page	2	0	0
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1½ in. across page	1	10	0
1 in. across page	1	0	0
½ in. across page	0	12	0
1½ in. single column	0	17	0
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DAIRY SHOW, LONDON

OCTOBER 18, 19, 20 & 21,

Great Exhibition of Dairy Cattle Produce, Appliances, etc.

ENTRIES CLOSE SEPTEMBER 5th,

or when the entries reach the numbers for which space is available, whichever may be the earlier date.

Particulars of the Secretary, British Dairy Farmers' Association, 28, Russell Square, London, W.C.1.

CHOICE HONEY for FEEDING BEES

We offer the finest Australian Honey that has ever come to our notice. Perfect flavour at 40/- per cwt., carriage forward. 60 lb. tins sent to any address on receipt of

£2 - 1 - 6

Carriage paid in England on 5 cwt. lots. Cash with order.

THE STANDARD HEALTH FOOD Co., Ltd., HONEY MERCHANTS, READING.

"GLASS SCREW-TOP HONEY JARS."

Nominal lbs....	2/3 doz.
Nominal ½ lbs.	1/9 doz.

Slightly tinged green glass, which better preserves the flavour of Honey.
In gross lots, carefully packed, and delivered to Reading Station, for cash with order.

JOYBELLS HONEY CO., 21 & 25, London Street, READING.

(THE LARGEST PACKERS OF HONEY IN THE WORLD.)

British Bee-keepers' Association

ANNUAL SHOW, 1921

IN CONJUNCTION WITH THE

GROCERS' EXHIBITION, Royal Agricultural Hall, Islington, London, N.

From September 17th to September 23rd.

ENTRIES CLOSE ON MONDAY, SEPTEMBER 5, 1921.

PRIZES FOR HONEY, &c.

Judges—C. L. M. EALES, Esq. G. BRYDEN, Esq.

APPLIANCES.

A price must be affixed to each exhibit in Classes 1 to 4, the price named to include every portion of the exhibit staged.

CLASS 1.—Collection of Hives and Appliances, to include, among other articles, the following:—Three Frame-Hives complete, fitted with arrangements for Supering; a suitable Outfit for a Beginner in Bee-keeping (the entries for which are to be grouped together and separate from the main exhibit); 1 pair of Section Racks fitted with sections; 1 Extractor; 1 Stimulative Feeder; 1 Rapid Feeder; 1 Smoker or other instrument for subduing Bees; 1 Super Clearer; 1 Veil; 1 Swarm Box for travelling; 1 Nucleus Box for travelling; 1 Travelling Crate for Comb Honey. Class 1 is open only to Manufacturers of Bee Appliances, being articles sold in their usual way of trade, and as far as possible of the Exhibitor's own manufacture. Staged by the Exhibitor or his representatives on 50 superficial feet. Price to be affixed to each article. No article must be added to the collection, nor any portion of the Exhibit removed, during the Show. First Prize, Silver Medal; Second Prize, Diploma.

CLASS 2.—Best and most complete Frame-Hive for general use, unpainted. First Prize, Bronze Medal; Second Prize, Cert.

CLASS 3.—Most complete and inexpensive Frame-Hive for Cottager's use, unpainted, price to be stated. First Prize, Bronze Medal; Second Prize, Cert.

CLASS 4.—Honey Extractor, price not to be taken into account. First Prize, Bronze Medal; Second Prize, Cert.

CLASS 5.—Any Appliance connected with Bee-keeping, to which no Prize has been awarded at a Show of the British Bee-keepers' Association. First Prize, 10s.; Second Prize, Certificate of Merit; Third Prize, Certificate of Merit.

HONEY.

Entries in Classes 6 to 9 can only be made by residents in Cheshire, Cumberland, Derbyshire, Durham, Herefordshire, Lancashire, Leicestershire, Lincolnshire, Monmouthshire, Northumberland, Nottinghamshire, Rutland, Shropshire, Staffordshire, Warwickshire Westmoreland, Worcestershire, Yorkshire, the Isle of Man, Ireland, Scotland, or Wales.

CLASS 6.—Six Sections of Comb Honey, excluding Heather Honey, of current year—approximate weight, 6lb. First Prize, 20s.; Second Prize, 12s. 6d.; Third Prize, 7s. 6d.

CLASS 7.—Six jars of Extracted Light-coloured Honey of current year, gross weight to approximate 6lb. (See Regulation 6). First Prize, 20s.; Second Prize, 12s. 6d.; Third Prize, 7s. 6d.

CLASS 8.—Six jars of Extracted Medium or Dark-coloured Honey, of any year, excluding Heather Honey gross weight to approximate 6lb. (See Regulation 6). First Prize, 20s.; Second Prize, 12s. 6d.; Third Prize, 7s. 6d.

CLASS 9.—Six jars of Granulated Honey, excluding Heather Honey, of any year, gross weight to approximate 6lb. First Prize, 20s.; Second Prize, 12s. 6d.; Third Prize, 7s. 6d.

Duplicate Prizes corresponding to the foregoing will be offered in the group of counties named below, and numbered 10 to 13.

Entries in these Classes can only be made by residents in Bedfordshire, Berkshire, Bucks, Cambridgeshire, Cornwall, Devon, Dorset, Essex, Gloucestershire, Hampshire, Herts, Hunts, Isle of Wight, Kent, Middlesex, Norfolk, Northamptonshire, Oxfordshire, Somerset, Suffolk, Surrey, Sussex, or Wiltshire.

MISCELLANEOUS OPEN CLASSES.

CLASS 14.—Two Shallow-frames of Comb Honey, for extracting, gathered during 1921. First Prize, 15s.; Second Prize, 10s.; Third Prize, 5s.

CLASS 15.—Six jars of Heather Honey, of any year, gross weight to approximate 6lb. (See Regulation 6). First Prize, 15s.; Second Prize, 10s.; Third Prize, 5s.

CLASS 16.—Six jars of Heather-mixture Extracted Honey, of any year, gross weight to approximate 6lb. First Prize, 15s.; Second Prize, 10s.; Third Prize, 5s.

CLASS 17.—Best and most Attractive Display of Honey and Honey Products in any form, and of any year, staged on space not exceeding 4ft. by 4ft., maximum height to be about 4ft. above the table. The gross weight to be stated. [*The Exhibits in this class to be staged and repacked by the Exhibitors or their representatives.] First Prize, 60s.; Second Prize, 30s.; Third Prize, 15s.

*Regulation 6, with regard to the size of the jars, does not apply to this Class, but Regulation 5, re lace edging, does apply.

CLASS 18.—Exhibit of not less than 3lb. of Bees' Wax, the produce of the Exhibitor's Apiary; extracted and cleaned by the Exhibitor or his Assistants. To be shown in shape, quality and package suitable for the retail trade. First Prize, 12s. 6d.; Second Prize, 7s. 6d.; Third Prize, 5s.

CLASS 19.—Honey Vinegar, 1 quart, in clear glass bottles. First Prize, 5s.; Second prize, 2s. 6d.; Third Prize, Certificate of Merit.

CLASS 20.—Mead, 1 quart, in clear glass bottles. First Prize, 5s.; Second Prize, 2s. 6d.; Third Prize, Certificate of Merit.

CLASS 21.—Exhibit of an interesting nature connected with Bee Culture, not mentioned in the foregoing Classes, including Candy for Bee Feeding, Articles of Food, or Medicine in which Honey is an ingredient (offered by Mr. T. W. Cowan). First Prize, 10s.; Second Prize, 5s.; Third Prize, Certificate of Merit.

CLASS 22.—Exhibit of a Scientific Nature not mentioned in the foregoing Classes, to which no Prize has been awarded at a Show of the British Bee-keepers' Association (offered by Mr. T. W. Cowan). First Prize, 10s.; Second Prize, 5s.; Third Prize, Certificate of Merit.

The W. Broughton Carr Memorial Gold Medal will be awarded to the Exhibitor obtaining the most points under the following conditions.

First prize to count 3 points. Second, 2 points. Third, 1 point. In case of a tie the competitor having the largest number of awards shall obtain the medal. No exhibitor shall take the medal for two consecutive years. The points to be awarded in all classes except Appliances.

Schedules, Rules and Entry Forms from the Hon. Secretary of the British Bee-Keepers' Association, W. Herrod-Hempsall, 23, Bedford Street, Strand, London, W.C.2, to whom all communications relating to this department should be addressed.

Seasonable Hints.

May we again draw our readers' attention to the near approach of the closing date for entries to the B.B.K.A. annual show at the Grocers' Exhibition. Very few entries have been made to date.

On the whole the season has been the best for several years past, and there is not the disadvantage experienced when the show has been held in connection with the Royal Agricultural Society of having to make entries on the speculation of being able to obtain honey to show so early in the season. Every beekeeper will by now know if he has honey worth showing, even in some at least of the heather districts. Honey generally is of very good quality and competition will be keen, therefore the greater will be the honour of winning a prize. The council are hoping for a good show, something in the nature of pre-war—and pre-Acarine disease—days, when we have seen 60 entries in one class.

The entries for the Dairy Show also close on the same date, although this show is a month later than the Grocers' Exhibition, and it is hoped that at this well-known show also a good display will be staged.

Another excellent show is the one held at Altrincham on the 21st of September. This claims to be the largest one-day show in the country; the entries for it close on September 3rd. It is unfortunate, so far as beekeepers are concerned, that it should clash with the Grocers' Exhibition, as some may not be able to exhibit at both shows. It is, however, possible that it may be more convenient for beekeepers in the North, especially when railway fares have to be studied.

It must not be forgotten by those who have honey to sell that these large shows of the autumn are excellent media for bringing their wares to the notice of prospective customers. Many a good deal has been made through exhibiting at them in past years.

Bee-keepers who have been so fortunate as to harvest a large amount of honey should look carefully to those stocks that have given the heaviest surplus. It will often be found that those stocks have put "all their eggs in one basket" and nothing but eggs in the brood chamber, all the surplus honey being stored in the supers, therefore, when this is removed there are no stores left for winter. This must be made good either by exchanging combs with some from those stocks with a superabundance of stores or feeding with sugar syrup, or honey. It is generally recommended that feeding for winter stores should be completed by the end of September, but *the sooner it is done now the better.* This will stimulate brood rearing, as well as providing stores for winter.

In the *Journal* for June 23, p. 288, Lt.-Col. Kettlewell suggested treating bees suffering from "Isle of Wight" disease with Collosol Iodine, and in the issue for June 30, Rev. G. H. Hewison says he has tried Collosol Sulphur. Someone has drawn the attention of British Colloids, Ltd., the makers of colloid preparations of standard drugs, to this, and they have sent us a communication on the matter as follows:—

> DEAR SIR,—Our attention has been called to communications in your Journal, both of the 23rd June and the 30th of that month, suggesting the use of Collosol products for Acarine disease and as a specific for "Isle of Wight" disease. The value of colloidal drugs as applied to the human anatomy is becoming daily more fully recognised by members of the medical profession, and it would appear from these communications that the product could with advantage be employed on the treatment of both these diseases, which we are led to believe are most difficult to eradicate.
>
> Having no data available, we cannot, of course, at the present time issue any claims, but as we are anxious that the possibilities should be explored, venture to ask if, through the medium of your columns, you would suggest to your readers that if any bee-keepers are sufficiently interested we should be pleased to send samples of either Collosol Iodine or Collosol Sulphur for trial purposes. Naturally we do not claim to be disinterested in the matter, but from what we can gather a really consistent, reliable product for the above-mentioned diseases would be of inestimable benefit to the thousands of bee-keepers in this country.—Yours faithfully, for British Colloids, Ltd., E. H. BUCKMAN, General Manager.
>
> 22, Chenies Street, Tottenham Court Road, London, W.C.1.

We would suggest that only those capable of making a reliable test of the articles mentioned and giving a tabulated report of the tests made and their results should send for samples.

A Dorset Yarn.

One reader, August 11, asks a query *re* queen excluders. I consider that these must hinder bees in their hurried rush to sections or surplus combs; without them one is never sure that the queen will not go up and lay eggs in the surplus racks. It often happens with us that the outside combs are filled with heather honey. This is left over from the preceding year. We have found this so as late as May, when the surplus racks are put on (we always deface the cappings before the supers are put on). The queen lays her eggs in the centre ones, as it is so much warmer. These outside combs of honey limit the space for the queen to lay. It makes the centre very crowded, as bees are emerging in numbers each day. The heat rises and the racks of sections, when drawn out, tempt the queen up, or the workers force her up. We find that in sections she produces drones to mate with the young queens, for about that time the will of the workers is centred on sending out a new colony to still further the race. At one time, when I only put starters in the sections, bees filled up the rest with drone comb. I saw the queen over the tops of sections through the glass cover; this told me something was wrong. Another rack with whole pieces of foundation was given beneath. She did not enter up again. This year the queen went up in two of the stocks. These sections were left on the whole winter. They were only partly filled in the autumn, so we gave them back to the bees to use for winter store. We put the second rack on in May, about the 2nd or 3rd. Anyway, it was the first week, but she had spoilt the other rack with some drones, not many, as we probably interfered with her peregrinations. We saw she was on the brood combs (we destroyed all queen cells before adding the second rack). She did not go up again, the few drones came out, and the cells were filled with honey, but they were only monstrosities when finished, as a dark stain showed where the drone brood emerged. Now, where we added standard and shallow bars without an excluder all brood was worker. These were only used once; as the bees emerged from the cells these were promptly filled with honey, and were very quickly capped over. The extreme heat of the hive, or the dry weather, ripened off honey quickly. As I have written before, bees do not do always the same. I gave one hive a rack of drawn out shallow combs for the queen to lay in, with excluder over top. The next hive was treated the same. The first filled shallows with honey, without the queen going up; the next filled the lower part of seven combs with brood. Where a box of shallows was put beneath, the whole was filled with brood. These were all put on in early May to prevent swarming.

Those who were able to prevent swarming in May have by far the most honey to show this year. The great wealth of stores was harvested in May and June; in those months I consider it safest to have an excluder to keep the queen from entering supers, but after that we take them off, excepting those shallows and standards that are wanted for exhibition. With June swarms, have not found the queen enter sections. If the swarm is from a bar-frame hive, and one wants it for increase, then one can work supers without excluder. If honey is wanted and not increase we clear out all queen cells and return the swarm, adding an extra lot of shallows or brood frames beneath the brood chambers, the extra air space beneath takes away the desire for swarming as bees have cells to repair or new ones to draw out.—J. J. KETTLE.

Jottings from Huntingdonshire

For some inexplicable reason wasps, although too plentiful to be pleasant, are not raiding the hives in anything like the numbers of former years. The strength of the bee colonies may have something to do with this, as no doubt wasps are canny enough to know if the forces against them are likely to be too strong. A sufficient number of these pests, however, make attempts to get within the hives, and, as the season advances, these attempts will be more vigorous. It is up to us to assist the bees in defence of their home. Many methods have been adopted. Handfuls of hay before the entrance, a shield of glass, a long tunnel open at one or both ends, carbolic cloths hanging from the weather board, all of which help. I think, however, that I have managed to hit on a plan which gives the bees a great advantage over the wasps; so far it is very successful. I should like others to try it, and to hear if it serves as well with them as with me. Get a piece of wood not less than two inches thick, the width and length being such as to fit close up against the entrance, bore or burn through with a red-hot poker a number of holes just large enough for two bees to pass each other in the tunnels. Open the entrances, and place the perforated wood in front. It will be noticed that if a wasp enters one of these tunnels it is faced by at least two attacking bees, with the possibility of a returning bee following behind. Caught in this way, the wasp is soon dewinged or decapitated and thrown out. It will be noticed that after a few days wasps leave hives so protected alone. Whether they will hold council together, and decide on methods of overcoming this new defence, remains to be seen. It is also not a bad plan to entrap wasps with a glass jar containing sweetened water and vinegar. If a piece of paper is tied over this and a small hole made in the middle, a few inquisitive wasps will soon begin to investgate; many others will follow. By placing such a jar on a hive top I have caught wasps by the hundred.

There are at least two good things to be said of wasps—they kill many thousands of

house flies and wage war on wax moth larvæ. Looking through some hives at Lutton a few days ago I came across one infested with the wax moth, and wasps were there attacking and ripping open the grubs to some purpose. People who never kill wasps on principle will be glad to hear this good of them.

The past week's weather has been kind, but the honey flow, as far as surplus is concerned, has ceased, and although many flowers are bursting forth, we shall not expect more than a stimulation of breeding. Strong colonies are what we want at this time of the year, and, bearing in mind our experience of last winter, ample stores. One hears talk of a very severe winter following this unusual summer; if such a winter is ahead, stores need not be so heavy so long as good bee ways and warm covering are provided, but who would dare run the risk of light stores? If the weather conditions run in cycles, we may expect another mild winter —more rain, perhaps, than last year, but very little severe frost.

I have still one or two supers left on, but shall in a very few days remove them. The bursting forth of the third lot of clover blooms is cheering, and no doubt the bees will take full advantage of this source. The grass is looking green again after the refreshing showers, and those who have ampelopsis climbing over their houses will note the number of bees that visit it just now. The ivies are yet to bloom, and there is good promise of strong stocks storing and weak stocks increasing without a lot of artificial feeding.

I was glad to note the Editor's deprecation of belauding extraordinary takes of honey from individual hives. It is misleading. Especially as oftentimes the produce of these exceptional hives is perpetually advertised, while the smaller takes are not mentioned. Just as some people will talk of their wondrous laying fowl when they happen to be getting eggs, eggs, eggs, when the time comes that day after day no egg is laid, the feathered creatures are not mentioned. But there is a sadder side to this. Colonies of bees which seem to gather honey out of all proportion to their number and strength not infrequently succumb during the winter. I much prefer to say that a good stock, costing £5 in April, may be expected to give at least one swarm and 40 to 50 lbs. of honey, but that if the summer is not good for bees, a return of 50 per cent. may be looked for if the stock is kept free of disease and judiciously managed. When we urge more people to keep bees, we want them to get "beeitis" at the same time. Many do, and the complaint runs to fever pitch, which causes rambling and delusions. In one season they know all there is to be known, and certainly know more than veterans of the craft. This fever passes in time, and leaves them well inoculated and sane. Oh! yes, I have passed through this phase myself. Years ago, as a humble disciple of my brother, I knew more than I know now. The passing of time cools our conceit about, but not our enthusiasm for, the bees.

Steeple Gidding. E. F. Hemming.

Observations.

Since I sent you my last notes I have been having a short holiday in Hampshire, where it has been my fortune to see one or two bee-keepers who have put questions to me on various points in connection with their lack of success, which has shown itself generally either in poor harvests or loss of bees during the winter. At first blush these would appear to be quite right and proper questions for anyone professing to be an expert to be called upon to answer, and yet one invariably finds that they are not to be answered by any particular expert knowledge, but by anyone who has read the shortest sound text-book and applied commonsense to that task. It seems to be a silly thing to have to say, but it is really quite necessary to inform some bee-keepers of long standing, who lose a proportion of their stocks every winter, that in the heat of summer bees may be kept almost anywhere and in any old thing, but that the strenuous winters in this humid climate of ours demand special precautions, particularly against damp and cold, and you will notice the order in which I place them. It will be of no use to crowd on blankets unless proper precautions are taken at the same time to exclude all damp from the hives and every possibility of its ingress. If this is faithfully done, and the hives are double walled, winter losses will become rare events unless the bees are starved. Without sufficient food no bees will live for long under any conditions, however favourable otherwise.

Of course, it seems to be perfectly ridiculous for me to be writing all this to you, Mr. Editor, in the anticipation of your publishing it in your paper, and if you think it too puerile then please consign it straight away to your W.P.B., and if it does pass you and get into print then I hope that if your readers think you ought to have given it the treatment I suggest, they will write and tell you so. One has a feeling that your readers do not require this, and yet how is one to get the information to those others, who keep bees year after year, and even take prizes at the local shows and stage beautiful sections and really good honey?

How should our bees be packed for winter then? Well, double-walled hives ought to be compulsory. The strain of pulling through a bad English winter in single-walled hives should not be imposed upon them. Double-walled with an intervening dead air space is, of course, much the best, but there are many others which will do, and the small hive with the reversible lift to supply the double winter protection is effective, and may be used *faute de mieux*; ekes below the brood chamber are good, but, personally, I have given them up as superfluous. Two strips of wood about ¼ in. square and 6 in. long placed about 3 in. apart across the tops of the middle of the frames so that the bees have room to travel across the top where it is warm instead of having to go down to the bottom of the comb they are on before they

can get to another part of the cluster. Lastly, I think it is worth while wide spacing the brood combs so that the bees can cluster closer together, for it is the bees which generate the warmth and not the wax and wood. Combs well filled with supplies are put in the centre. Pack on top so as to keep out damp and draughts. Until breeding begins in the early spring it is not necessary to have a great many blankets. Side packing, such as sawdust, etc., I never use, having proved them to be superfluous in this part of the country, and I abhor superfluities.

There are still many hives about with lift and roof all of a piece; these are the very bane of all and every operation in bee-keeping. If you are any good at carpentry turn the sides into a lift as early as possible, and make a new roof: you will never regret having done so. Don't sell it to anyone else or you will constantly be worried in your dreams by visions of your victim suffering the tortures you have just escaped from yourself.

I noticed the other day the review of a new book for children in your journal, and was glad to read your remarks upon its accuracy and the needlessness of trying to improve upon the marvels in the bee world with additions from the imagination. At the close of last term my little girl was given a paper on general knowledge questions, among which was the following:—"What is the name of the flowers from whose *pollen* the bees make the best *honey*?" The answer required to this question was "Clover." This at a school for better class girls where there are about four hundred pupils, most of whom will continue for the rest of their lives in the sincere belief that bees do actually gather honey from pollen.—ARNOLD RICHARDS.

A Visit to Mr. Ellis, Gretna.

Being on holiday in Dumfries-shire, about 20 miles from Gretna, we thought it a good opportunity to make the acquaintance of Mr. Ellis, and a note from us asking when it would be convenient to call brought back word, "Any day, but Thursday afternoon is our half-holiday, and we could have more time with the bees."

A look at the railway time-table showed us that going by Dumfries we would have two hours to wait there for our connection, both going and coming. If we went by Lockerbie we would land in the debatable land of the Border, and we did not know what bog or morass we might find ourselves in or what peril might beset us in the happy hunting ground of our forefathers. Living at Lochmaben and the King's Arms there, we engaged mine host to run us south in his motor, and on Thursday morning we set out. We were soon on the Glasgow-Carlisle road, speeding south through a land to all appearance flowing with milk and honey, and it does not belie its appearance. The cheese is of the best, the butter is excellent, and the delicate flavour of the clover honey cannot be surpassed. We have sampled them all and found them good.

On the splendid road to England we made good progress. Our first halt was at Ecclefechan, the birthplace of that grim old philosopher and author, Thos. Carlyle. There at the house of his birth we paid our respects to his memory, then on to Gretna Green, where we called a halt at the old blacksmith's shop where the runaway couples in bygone days used to have the chains riveted on them, from which they often repented at leisure. I surveyed the scene of former romance, but was not on matrimonial business bent, as wife and family were with me, and I am too well off to wish to be a bigamist.

Then turning south we crossed the Sark on to English soil. A voice from the rear of the car, "Where are we now?" brought back the response, "An Armstrong border raid into England." We ran into Cumberland a few miles, until at the sign of the "Hieland Laddie" we called a halt, and there for payment in coin of the realm we were entertained to the hospitality of an English inn. Then turning north we were soon back in Gretna, and a few miles out on the Annan road we came to Rigg. The other occupants of the car returned home, while I entered Mr. Ellis's house, there to be hospitably entertained by his charming wife, and I also made the acquaintance of his daughter, who got her first sting when she was a few months old.

I have kept bees under difficulties at times and have been hard put to it to get a place for an apiary. But no more complaints after what I saw at Rigg. In a backyard about 12 ft. square ten hives have their exit—I am hardly saying their location. Two hives are on the ground level a few paces from the back door, and the bees were working hard storing honey rapidly; then overhead on two sides of an old hay shed, through apertures in the walls of wood and stone, the bees were pouring in their hundreds. We admired the ingenuity of the arrangement from below. Then up a ladder into the loft, and there on two sides of the wall the hives were placed side by side. And what mammoth constructions! One was on 72 standard frames, gathering winter stores for all the others; in a few days to be reduced to eight frames, with sections piled on for the heather. Another had 200 sections, all nearly ready to come off, which will also be reduced to suitable dimensions for the heather crop. Some had two queens, one on top, making up super strong stocks for that late harvest. All were in the best of health and giving a good account of themselves under the care of a master hand. If there were any crawlers they would be only crawlers once; a drop of 8 ft. at least from the alighting board to the ground does away with the necessity of crawler traps. All were pure-bred imported Italians. Mr. Ellis will have none other. He maintains the disease is caused by the black drones mating with the queens reared here, so he rears none. I asked him of his experience with it, and he told me he would not own natives; nothing but Italians, run on the sky-scraper system of Mr. Smith, of Cambridge, had been of any use to him, and his present success and immunity he attributed to the

advice he had got from Mr. Smith. All too soon the afternoon flew past, and we suddenly discovered that it was train time and did not know in what direction the station was. With regrets we turned our face toward Gretna Mr. Ellis accompanying me, and at the carriage door of the north-going train we parted with mutual regrets and hopes that another year we will meet again to compare notes and exchange views. We met only as knowing each other through the columns of the BRITISH BEE-KEEPERS' JOURNAL. We parted personal friends, hoping that we will have many more meetings in the years to come.—J. C. A., Grangemouth.

Lantern Slides Wanted.

The Hon. Sec. of the B.B.K.A. has received the following letter:—

Claremonth, West Australia.
April 19, 1921

The Secretary,
British Bee-Keepers' Association.

DEAR SIR,—I write to inquire if your Society could assist me in an endeavour to be of service to the returned invalided soldiers, who are incapacitated from further work.

Many of these men could attend to bees, with the assistance of their dependents, if properly instructed.

The writer is a drawing-master attached to the staff of the Government Technical School, Perth, W.A., and is well acquainted with the proper management of bees, having bees in possession for many years.

During the Christmas vacation, and at other times, I intend giving free public lectures on bee farming for their benefit. I am without lantern slides to illustrate these lectures, nor are they procurable out here.

I should be very thankful if your members could volunteer sufficient slides to illustrate a lecture.

Thanking you in anticipation,
Yours faithfully,
ALEXANDER DOEPEL.

[If any of our readers have lantern slides they do not want we shall be pleased to receive and forward them on.—EDS.]

Echoes from the Hives.

A BRIEF REPORT.

The heather flow is fully on, and honey coming in fast, with strong colonies storing in thirty to forty sections.

Apropos of the general complaints re paucity of brood, one of my stocks had brood and eggs in all ten combs on the 14th inst.

Eight combs were solid with brood, in some eggs were up to the top bars, and there was scarcely a pound of honey in the lot—all was in the two supers above.

The queen was Punic, and, judging from the good qualities of my one colony, this little-known race of bees is worthy of some attention. J. M. ELLIS.

Gretna, August 19.

The Prince of Wales Among the Bees.

Among the very many industries carried on at Preston Hall, Aylesford, Kent, for the benefit of disabled soldiers and sailors, is bee-keeping, and the Prince, when on his round of inspection to the various branches of industry at Preston Hall, was met by Mr. Bryden, Rochester, at the apiary, where a very carefully arranged trophy of honey and produce, along with an observatory hive and Italian bees very soon met the keen eye of His Highness, who expressed surprise and delight to see so many patients taking up this delightful and interesting pursuit, plying with many questions every man as he shook hands and passed. He paid a tribute of admiration to the splendid exhibition of honey and neatly arranged apiary, at the same time testing the qualifications of the expert, asking how the bees were got into the observatory hive, how the cells were built out, and how the wax was made in a manner that made him feel quite at home.

After the visit of inspection all the men assembled in the new dining hall, where His Highness declared the Institution open, and wished a speedy recovery to health of every man.

Chesterfield and District Bee-Keepers' Association.

For the first time since the Rev. T. Shipton, a former Vicar of Old Brampton, officiated as expert, demonstrations were given in bee-keeping at the Chesterfield Flower Show, held in Queen's Park on July 27. These had been arranged by the recently-formed Chesterfield and District Bee-keepers' Association, of which Mr. J. Lindsay, of Cutthorpe, is president; Mr. C. P. Markham, J.P., vice-president; Mr. L. Ford, treasurer; and Mr. W. E. Tate, secretary, the latter having worked extremely hard in the short time left to make the effort a success. The demonstrations were given by Mr. Dan Wilson, F.R.H.S., of Belper, first-class expert of the British Bee-keepers' Association, assisted by Mr. Tate in the absence, through indisposition, of Mr. Tom Sleight, of Clay Cross. They drew crowds to the bee tent, and much interest was taken in the various appliances, different kinds of honey and the observatory hive, showing bees at work, lent by Mr. Tom Sleight.

The previous Wednesday the members assembled at the home of Mr. Tom Sleight, whose writings on bee lore have earned for him a wide reputation. With characteristic generosity he regaled them with some of his finest honey, and had on view sections which, with their snow-white cappings, called forth laudatory comments. After a friendly chat a move was then made to his well-kept apiary, and, in spite of the conditions, the bees did not seem to mind their owner pulling their homes to pieces. As a fact, they stood the ordeal very quietly in the midst of the unusual assembly. Investigation proved that during the last week or two the bees had gathered plenty of pollen but very little

honey. Mr. Sleight explained that he was preparing his stocks for a journey to the heather. Everything was found to be in good order, and all were amazed at the gentle manner in which this expert went about his work.

Another treat was in store when a visit was paid to Parkside, the home of Mr. Griffin, a bee-keeper of many years' standing. "Isle of Wight" disease having left him beeless, he recommenced this year with a swarm of Dutch bees, and the members had the gratification of seeing him take about 50 lbs. of honey, the shallow combs being completely filled and beautifully capped. Mr. Griffin has another hive, which, should rain fall to revive the heather, will finish the season at the moors.

Two practical demonstrations closed with a hearty vote of thanks to Mr. Sleight and Mr. Griffin on the call of the president, Mr. J. Lindsay, of Cutthorpe.—(*Communicated.*)

Mammoth Show at Cambridge. (Honey Section.)

LIST OF PRIZE-WINNERS.

Class 1.—Best Two Shallow Frames for Extracting: 1st, Wm. Hall, Fulbourn; 2nd, S. Sanderson, West Wratting; 3rd, W. Moseley, Whittlesford.

Class 2.—Best Six 1lb. Sections: 1st, W. Halford, West Wratting; 2nd, S. Sanderson, West Wratting; 3rd, F. Humphreys Comberton.

Class 3.—Best Six 1lb. Screw-cap Bottles Light-coloured Honey: 1st, Mr. Bunting, Exning; 2nd, W. Hall, Fulbourn; 3rd, P. Rogers, Comberton.

Class 4.—Best Six 1lb. Screw-cap Bottles Medium-coloured Honey: 1st P. J. North Cambridge; 2nd, Rev. Gordon Smith, Comberton; 3rd, H. S. Johnson.

Class 5.—Best Cake of Beeswax, not less than 1lb.: 1st, Mr. Bunting, Exning; 2nd, W. Halford, West Wratting; 3rd, P. J North, Cambridge.

Class 6.—Most Attractive Collection of Beeswax in marketable forms suitable for retail trade, in 1oz. to 4oz. cakes: 1st, W. Halford, West Wratting; 2nd, G. Thomas, Burwell; 3rd, Mrs. E. Gordon, Whittlesford.

Class 7.—Display of Honey. 1st, W. S. Halford, West Wratting; 2nd, F. Humphreys, Comberton; 3rd, G. Thomas, Burwell.

Class 8.—Best 1lb. Bottle of Honey (Gift Class): 1st, Mr. Bunting, Exning; 2nd, W Barnes, Exning; 3rd, Mrs. E. Gordon, Whittlesford.

Class 9.—Best 1lb. Section (Gift Class): 1st, W. Barnes, Exning; 2nd, S. Sanderson, West Wratting; 3rd, W. Hall, Fulbourn.

The "Louis Tebbutt" Trophy, awarded to a member of the Cambridge and District Bee-keepers' Association making highest number of points in all classes: Mr. W. S. Halford, West Wratting.

All exhibits in Classes 8 and 9 were presented by the Committee of the Cambridge and District Bee-keepers' Association to Addenbrooke's Hospital for the use of the patients there.

About 90 entries in all classes were made.

Mr. G. E. Rogers and Messrs. Young, of Cambridge, staged excellent trade stands.

Demonstrations with bees were given for about three hours during the afternoon by Mr. Allen Sharp, and attracted larger audiences even than usual.

The stewards responsible for the staging, etc., were Messrs. Moseley, Rowe, Thomas, Keeble, Rogers, and the Hon. Secretary of the Cambridge and District Bee-keepers' Association (Mr. E. C. R. Holloway).

The judges were Messrs. Allen Sharp and G. W. Bullamore.

Staffordshire Bee-Keepers' Association.

The members of the Staffordshire Bee-keepers' Association and the South Staffs. and District Bee-keepers' Association had a red-letter day arranged for them by their respective secretaries, Messrs. W. Griffiths and W. J. Walton, by meeting at the County Council Farm Institute, at Rodbaston, Staffs., on Saturday, July 23. Special interest was attached to the gathering by the presence of the Editor of the "Bee World." The 130 members of the two Associations who attended were highly pleased with the meeting and the arrangements. The apiary has grown considerably since its removal to Rodbaston, and Mr. J. Price, the county bee expert, had over 40 stocks, swarms, and nuclei to show to the visitors. All the bees are of the Italian and Dutch strains, which are known to be resistant to the Isle of Wight disease. Amongst the Italians, bees of the Piana and Bozzala strains were to be seen, and two of the Italian stocks have not swarmed this season, one having brood box and three supers and the other being on 20 brood frames (double brood box) and three supers. Naturally, there was a good deal of discussion among the visitors as to the relative merits of Dutch and Italian bees. Both are prolific strains, and consequently are prone to swarm, and, so far as the Dutch are concerned, Mr. Price is of the opinion that it is almost useless to try to stop them, and that the only thing to do is to let them get on with it. Probably the very hot summer has been favourable to the Italians, as some bee-keepers report that their stocks have not swarmed, and that large stores of honey have been secured. Mr. Price said, in the course of his remarks, that in the case of such prolific strains of bees as the Italians and Dutch, re-queening each year was advisable. The original tall Dutch skeps in which the parent stocks were sent over were a source of interest to those who had not seen them before. A novelty in the form of what appeared to be a concrete hive was shown by Mr. E. C. Hipkins, of Tipton. As a matter of fact, it was made of a composition of wood, magnesite, and concrete, and it is claimed that it is warmer in winter and cooler in summer than the ordinary wooden hive. It is named the "Dura" hive, and it certainly conveys the impression of durability.

Dr. Abushady had undertaken to speak on the evolution, use and abuse of metal combs, and the chair was taken by the Rev. Prebendary Dunkley, chairman of the County Edu-

cation Committee. He said the Committee were glad to see that so much interest was being taken in bee-keeping. They were all interested in combating Isle of Wight disease, and in the general advancement of the industry. In his neighbourhood there was one man who had fought I.W.D. and had won through by the introduction of stocks which were resistant. He believed that the disease would wear itself out in time. In fitting words he then introduced the lecturer.

Dr. Abushady, in the course of his remarks, said that the metal comb in a crude form and wax-coated was first introduced about 50 years ago, thanks to the originality of the celebrated bee-keeper, Moses Quinby. His experimental comb consisted of crimped metal ribbons held together with string and coated with wax, and afterwards embedded in the centre of an ordinary wax comb. But such a conservative experiment as that was too much for bee-keepers in the days of Quinby, and even in later times bee-keepers would remember how ordinary metal ends were objected to. Later, George Macdonald brought out a metal comb composed of a continuous crimped strip which had proved a great success in America in all but the very cool districts. In cool districts, early spring breeding was delayed by the use of the metal comb when new, but, so far as supering was concerned, the use of metal combs had proved a success in every part of the world. The comb which they were producing in this country presented greater strength and simplicity and every part was detachable. It contained 25 cells to the square inch, or over 400 more cells than one of the ordinary wax combs. As to the advantages of the metal comb, its life might be set down at about 30 years, if not more. It was impervious to the depredations of the wax moth, and it was easy to remove mouldy pollen from the cells, which could not be removed from wax combs. If any part was broken, it could be replaced. All that need be done in the case of disease was to fumigate the comb. If wax combs were used in the brood chamber and metal combs for supering, it may not be necessary to use an excluder. The cost of production at present was 4s. 6d. per comb, and they were being sold at 5s. 6d. each (standard), including the cost of advertising; in other words, they were being sold at no profit to begin with. The lecturer then dwelt on faulty methods of management. Many questions were asked, which were satisfactorily answered.

Specimens of the comb were handed round and were inspected with much interest. An observatory hive containing bees actually at work on a new semi-comb, with many one-day-old eggs in the cells, laid during the journey from Benson, was also shown.

The Rev. W. H. Richardson (Wolverhampton), Vice-President to the So. Staffs. B.K.A., in moving a vote of thanks to Dr. Abushady, said bee-keepers owed him a great debt of gratitude for his services to the bee-keeping industry. (Applause.) No longer was bee-keeping just a hobby, but it had become a profitable industry, in which a great many people were engaged. He believed that Acarine disease would soon be a thing of the past.

The Rev. B. R. Hibbert (Denstone), in seconding the vote of thanks, said bee-keepers had stood still for too many years, but they must be ready to follow up anything which represented progress. The use of metal combs might appear to be rather revolutionary, but no doubt they would mark a great point of progress. It is simply a case of a special or a new form of management. In his walks abroad he was sorry to find that bees were not always kept in the best way, and that too much attention was given to producing honey by unsatisfactory methods. He hoped more encouragement would be given not merely to the production of show honey, but to induce bee-keepers to manage their hives in a better manner. The majority of hives were not kept as clean as they ought to be. He would like to see prizes offered for the best-kept apiary. (Hear, hear.)

The motion having been heartily carried, Dr. Abushady thanked the company for their kind reception, and suggested that in view of the appreciative and co-operative attitude of Staffordshire bee-keepers, it would give an impetus to the use of metal combs if they had a class for semi-comb honey.

Mr. E. H. Hipkins (Tipton) proposed and Mr. Lavender (Wednesbury) seconded a vote of thanks to the Rev. Prebendary Dunkley for presiding, both expressing the view that the metal comb marked a distinct advance in modern bee-keeping.

The party then proceeded to inspect the horticultural department of the Institute, under the direction of Mr. J. Stoney, after which tea was partaken of, during which Dr. Abushady urged the importance of combination, and put forward the objects of the Federation of Bee-keepers, the principle of which is to combine the efforts of the chief Bee-keeping Associations, with a view to the betterment of the industry.

W. J. Walton

Bee-Keeping Exhibit at Stirling.

The bee-keeping exhibit of the West of Scotland College combined the scientific with the practical. This department has made rapid strides since its institution a few years ago. The West of Scotland College is the only one in Great Britain where daily courses are conducted all the year round. An average of 30 students pass through the department annually. Bee-keepers make a practice of systematic visitation to the College apiaries to view the experimental and research side of the work. The bee-keeping exhibit reflected the work in every detail. A collection of over 100 lbs. of honey in various forms arrested the visitor on entering the stand. The very choicest of honies were staged, and scrupulous care had been shown in cleanliness, the object being to educate the bee-keeper in marketing his honey in the best form. Seldom, if ever, has such fine comb honey been on view in Scotland. Combs of honey for extracting purposes, together with wax, were shown. An ob-

servatory hive, with bees on aluminium combs, was on view. An experiment is being tried to produce the bee's cell with pure aluminium. In case of disease it is suggested that such a comb could be easily disinfected; whereas the wax combs require to be destroyed. It is too early to pass an opinion on the value of these combs, but so far the test has not been satisfactory. Scientific queen rearing has been a subject upon which much time has been devoted at the College apiaries. Cell cups (British and foreign), nursery frames, etc., were shown, together with micro-slides of pollen grains and pressed flowers, showing their honey and pollen values. A swarm of bees under glass attracted much attention.

The exhibit was of the right type from an agricultural college.—From the *Scottish Farmer*, August 8

Scottish Bee-Keepers' Association.

The quarterly meeting of the Council and the annual Conference of the Scottish Bee-keepers' Association was held in Stirling during the Highland and Agricultural Show. The chair was taken at first by Mr. J. R. Dickson, President, and later by the Hon. President of the Association, his Grace the Duke of Atholl, K.T., C.B., etc., who expressed his pleasure in assisting all rural industries, and his willingness to do all he could for the Association, which was doing so much to further the interests of the bee-keeping industry.

In spite of the inclement day, the Conference was the largest which has yet been held. In addition to 31 members of Council, there were 50 bee-keepers present from all parts of the country. Messages had been received from the Duke of Montrose, Lord Carmichael, Sir R. P. Wright, and many others, regretting their inability to be present.

The sudden death of Mr. Alec Steven, F.B.S.B.A., President of the Glasgow Bee-keepers' Association, was reported. Mr. Steven had been for some years Bee-master to Princess Louise's Hospital for maimed soldiers, at Erskine House, and had been the means of assisting many of them to add considerably to their incomes by the successful keeping of bees. He was probably the most popular lecturer on bee-keeping in the West of Scotland, and his untiring efforts had in great measure helped to raise the Glasgow Bee-keepers' Association to the important position it occupies to-day.

Interesting and encouraging reports were given by various Committees. The Committee on Bee-keeping for Women, of which Lady Salvesen is Convener, has got into touch with all the Women's Rural Institutes in Scotland, and, as a result, many lectures and addresses on bee-keeping for women had been given or were being arranged.

The Organisation Committee, under its new Convener (Rev. T. F. Best), has been in communication with representative bee-keepers in various parts of the country where no Associations at present exist, with a view to forming new branches. The Register of Bee-keepers is proving of great value in this respect.

The Registrar's report showed that there have been registered 8,500 bee-keepers in Scotland, with over 28,000 hives, and it is estimated not less than one-third may be added to these figures because of bee-keepers and hives not yet registered. The proportion of bee-keepers and hives per square mile for each county has been fully worked out, and it was stated that probably one million pounds' worth of honey per annum was lost through lack of stocks. It is hoped to publish this report on an early date.

The Education Committee had good progress to report. As a result of examinations held since the beginning of June, 30 candidates had qualified as practical bee-masters, 6 as expert bee-masters, and 4 as honey judges. The successful candidates present on the occasion were then awarded their certificates.

Other reports of a satisfactory nature were given, and some interesting discussions took place. It was agreed to accept the invitation extended by Mr. J. R. Dickson, from the Ayr Association, to hold the next quarterly Council meeting in that historic town.

The following is a list of the successful candidates for certificates awarded by the Scottish Bee-keepers' Association:—

HONEY JUDGE CERTIFICATE (8 Candidates).

Dr. T. D. Newbigging, Abington, Lanarkshire.
C. A. Harris, Crieff.
James Nesbit, Portobello.
Marshall K. Watt, Aberdeen.

EXPERT BEE-MASTER CERTIFICATE (8 Candidates).

Dr. T. D. Newbigging, Abington.
John Henderson, Cumnock.
James A. Hutcheson, Greenock
J. J. Walter, Kilmaurs.
Andrew Limond, Minishant.
James C. Armstrong, Grangemouth.

BEE-MASTER CERTIFICATE (42 Candidates).

Dr. W. Thurburn Scott, Banchory.
Captain J. O'G. Maunsell, London.
Mrs. J. Macdonald, Golspie.
Mrs. J. C. Thomson, Callander
Mrs. Milne, Selkirk.
Miss Helen P. S. Hogg, Earlston.
Miss A. J. A. Copeland, Kelvinside.
Miss Nora Wilkie Dalyell, Linlithgow.
Miss Margaret Fletcher, Auchterarder
Alexandar Mackay, Golspie.
John Macgregor, Boat of Garten.
James Halliday, Kirkcudbright
T. Balfour Kennedy, Glasgow
John McKinnie, Crieff.
Gavin Strang, Crieff.
Robert Buchan, Fowlis Wester
Andrew Todd, Gleneagles.
John Waddell, Auchterarder.
William Mitchell, Auchterarder.
James Gordon, Stirling.
W. H. Urquhart, Falkirk.
Hugh B. Martin, Dundee.
William P. D. Fernie, Colinsburgh.
J. B. Pinkerton, Strathaven.
Joseph Thomson, Tarbolton.
John Fraser, Fortingall.

James W. Eunson, Edinburgh.
William H. Menmuir, Edinburgh.
Alexander White, Cumnock.
John Scouller, Cardonald.

Manchester and District Bee-Keepers' Association.

During July apiarian visits were paid to Gatley, Audenshaw, and Carrington, districts quite distinct from each other—Gatley on the edge of fertile fields, market gardens, and orchards; Audenshaw, with its cotton factories, coal pit, brick crofts, and slag tips; Carrington, a reclaimed bog. They have one thing in common—hive bees, and in each place these found nectar in greater abundance than any recent year. Clover whitening the fields, and seeming to reach perfection on the replaced turf over the slag heaps. The constant sunny weather led to a discussion on water for the bees. It had been noticed that they preferred saline to the fresh, clean water supplied specially for them, and it was suggested that it be acidulated with a little vinegar, for even bees like their drink with a flavour, or a snap in it. One said his bees had followed the scented soapy water up the waste pipe into the bath to quench their thirst. He had been roused with cries of "Father! father! There are some bees in the bath-room!" What could he do but say, "Well, my dear, they are all ladies!"

With the removal of surplus, reports of robbing were heard. A unique case was mentioned where a small nucleus was attacked. The bee-keeper was looking through, and he saw a robber assault the queen and sting her in the abdomen. He smeared her with a good coat of honey. She was cleaned and doctored by her retinue, and apparently she is all right again, as she is performing her duties as before.

The secretary of the Gatley Flower and Horticultural Show wrote to ask if the Association would arrange and superintend a honey section for them. We promised to fall in with their wishes, and also again give a subscription to be distributed in prizes, the show day being Saturday, September 3. The cost of screw-top glass bottles led to the mention of paper cartons, which were much lighter, did not break so readily, were not so costly, and still were quite honey-tight.

J. WHITTAKER.

Notices to Correspondents

G. P. (Twickenham).—*"Points" at shows.*—When a cup, medal, or other prize is given for the exhibitor winning the greatest number of "points," a certain number are given for each prize, and these will depend on the number of prizes in each class. At the B.B.K.A. and other shows where three prizes are given in each class, a first prize counts three points; second prize, two points; and third prize, one point. Obviously if more prizes are awarded, the first prize must carry more points. We do not know how they were allotted in the show you mention, but probably they would be first prize, four points; second, three; third, two; fourth, one; and fifth, half a point. On that assumption, in the example given, the three first prizes would count 12 points, the fourth one point, and the fifth half a point=total 13½.

J. S. G. (S. Shields).—*Searching for queens.*—The same method is pursued for both virgin and laying queens, *i.e.*, lifting out the combs and searching for them. Facility in finding queens is a matter of good eyesight and practice. Use possible, or the queen may be sent scurrying to the sides or floor of the hive. A virgin is more difficult to detect than a laying queen, as she is more agile and rather smaller, as little smoke, and disturb the bees as little as The best time to re-queen depends on circumstances; as soon as the old queen is found to be failing, or otherwise unsatisfactory. Generally speaking, the best time is as soon as the honey flow is over and the surplus honey removed. The new queen has then time to get settled down before winter, and, what is of the most importance, the colony has the advantage of her labours *as soon as breeding commences next year.* Place the damaged comb of honey behind the division board, which should be raised ¼ in. to allow bees to pass under, or put it in a box over the brood combs, or break it up and put in a rapid feeder. We should prefer to extract the honey, or break the comb up and strain it, and feed the honey back. The Intermediate Examination is usually held the last Friday or Saturday in November, and a month's notice of entry should be given.

W. H. (Finchley).—*Recipe for honey wine.*—Better get a copy of "Mead and How to Make It." We have a few copies left, price 3d., post free

G. G. (Honiton).—*Bees coming out of cone escapes*—If there were only a few bees that had been accidentally left outside their proper quarters it does not matter. The escapes in the roof are for that purpose, but if bees are constantly coming out there is a leak somewhere that needs attention.

Bee Shows to Come.

August 27, at Hinckley.—In connection with the Hinckley Sweet Pea and Rose Society's Annual Show. Open to all bee-keepers. 1st prize, 12s. 6d.; 2nd, 7s. 6d.; 3rd, 4s.—Schedule from A. Kimbrell, Clarendon Road, Hinckley.

August 31, at Chester.—Cheshire Bee-keepers' Association, in connection with Cheshire Agricultural Society. Several Open Classes. Good prizes. —Schedules from T. A. Beckett, St. Werburgh Chambers, Chester.

September 7 and 8.—Glasgow District Bee-keepers' Association, in conjunction with the Glasgow and West of Scotland Horticultural Society, at St. Andrews Halls, Glasgow. Open Classes for Honey.—Schedule from Peter Bebbington, 15, Pitt Street, Glasgow. **Entries close August 31.**

Saturday, September 10, at Brentford.—Middlesex Bee-keepers' Association, in conjunction with Brentford Allotments Association's Annual Show, at Wesleyan School Hall, Clifden Road. Five Classes for Honey. Open Classes: One 1-lb jar of 1921 extracted honey, one 1921 section, one aluminium semi-comb of capped honey. Classes confined to members of the Middlesex Bee-keepers' Association: One 1-lb. jar of 1921 extracted honey, one 1921 section. Prizes: 10s., 5s., 2s. 6d. each class, and bronze medal of the British Bee-keepers' Association for best exhibit. Semi-comb prizes: £1 1s. and 10s. 6d. No entrance fees. Exhibits (excepting semi-combs) become the property of the above-named Associations.—Entries, to be made on a postcard, to R. R. Babbage, 33, Whitestile Road, Brentford, Middlesex. **Entries close September 5.**

September 17 to 23.—British Bee-keepers' Association Annual Show at Grocers' Exhibition, Royal Agricultural Hall, Islington, London. **Entries close September 5. Schedules from Hon. Sec., B.B.K.A., 23, Bedford Street, Strand, London, W.C.2. Entries close September 5.**

September 21, at Altrincham.—Altrincham Agricultural Society. Largest one-day Show in England. Several Open Classes for Honey, etc. Good prizes.—Schedules from Herbert Turner, 1, Market Street, Altrincham.

Saturday, September 24, 1921.—Staffordshire Bee-keepers' Association. The Autumn Exhibition of Honey, etc., will be held in the Technical Buildings, Stafford. Seven Classes for members only. Also for the best exhibit of honey in a metal comb, open to the world. Entrance fee 1s Prizes, £1, 10s., and 5s.—Schedules from the Secretary, W. Griffiths, Solway House, Silkmore, Stafford. **Entries close September 22.**

October 1, 1921 (Saturday).—Harrow Bee-keepers' Association, in conjunction with Harrow Horticultural Society, at Greenhill, Harrow. Class 42, Open to the United Kingdom, one section of honey, 1921. Prizes: 20s., 10s., 5s. Exhibits become the property of the above Association.—Particulars from J. L. Rogers, 289, Station Road, Harrow. **Entries close September 28.**

Special Prepaid Advertisements.

One Penny per Word.

Trade advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1½d. per word as "Business" Announcements, *Immediately under the* ***Private Advertisements.*** *Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 7s. per ½in., or 12s. per inch.*

PRIVATE ADVERTISEMENTS *are only intended for readers having* **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens** *that are reared or imported for sale, are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on MONDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

LAND on which apiary stands being offered for sale, will sell about 30 strong, healthy Stocks English and Hybrid Italians, on 8 combs, at £4 each, carriage paid; travelling boxes charged 10s. unless returned. No disease in apiary.—F. M. FALSHAW, Avondale, Stocton Road, Guildford. r.s.103

A DOUBLE CONQUEROR HIVE and much Bee Goods for Sale in new condition cheap.—MONK, SENR., 207, London Road, St. Leonards-on-Sea. s.104

A COMPLETE APIARY.—Seven strong, healthy Stocks of Italian Hybrids in seven W.B.C. 10-frame Hives, 24 spare drawn-out Brood Combs, two extra Brood Boxes, 32 Racks with shallow frames, mostly drawn out, 16 new 28-lb. Honey Tins, seven used ditto, eight regulating Feeding Bottles, one Porter Escape, one Geared Extractor, two Uncapping Knives, 200 Metal Ends, 12 Spare Lifts, etc., etc., price £40.—R. O. FORDHAM, Broom Hall, Biggleswade. r.s.105

FEW 8-frame Stocks, Hybrids, July Queens, 63s. Beech Cottage, Longton, Preston. s.106

PURE LEICESTERSHIRE HONEY, £8 10s. per cwt., 28-lb. tins, carriage forward, f.o.r., tins free; sample 6d., post free.—ERNEST HULL, North Street, Barrow-on-Soar. s.107

SECTIONS WANTED. Five surplus Queens, 10s. the lot to clear. SUNNY SURREY APIARIES, Clyde Road, Croydon. s.110

BARGAIN.—Very strong 5-frame pure Italian Stock, July Queen, £2; similar, Hybrid, 1920 Queen, 35s.; both off the heather; delivery first week September.—MORRIS, Iping House, Midhurst, Sussex. s.109

STRONG STOCKS, 10 combs, crowded brood, abundant stores. No reasonable offer refused. —RECTOR, Llandyssil, Montgomery. s.111

FOR SALE, four healthy Stocks, good stores, 1921 Queens; also various Appliances.—Shortheath Beacon, Farnham, Surrey. r.s.113

A FEW good fertile Hybrid Queens for Sale, 6s. 6d. each.—ADKINS, Moorlands, Harpenden, Herts. s.118

FOR SALE, 2 cwt. of good Cambs. Honey in 14 or 28-lb. tins; sample 6d.—GEO. NEAL, Mill Road, Treckenhan, near Ely. s.122

HONEY.—Pure Extracted Clover Honey, good flavour and colour, in 28-lb. tins, 1s. 6d. per lb.; sample 6d.—J. B. MARSHALL, Garforth, near Leeds. s.124

20 CWT. finest Red Clover pure English Honey, £8 per cwt., or 1s. 6d. per lb., in 56-lb. lots; tins free; carriage paid; sample 6d.—THOMAS, Causeway, Burwell, Cambs. r.s.125

FOUR STOCKS healthy Bees, £3 3s. each, or £12 the lot.—INWOOD, "Cravenhurst," 60, Uxbridge Road, Ealing, W.13. s.126

FINEST Light Lincolnshire 1921 Honey, no better obtainable; price, carriage paid, 56 lbs., £4 7s.; 28 lbs., £2 5s.; 14 lbs., £1 4s. 6d.; tins included free; sample 6d.—CHARLES CUBLEY, Gedney, Holbeach, Lincolnshire. s.127

FOR SALE, pure extracted Welsh Honey, 1s. 6d per lb., carriage paid.—MORRIS, Penrallt, Henllan, Cards, S. Wales. r.s.32

FINEST ENGLISH HONEY, £8 per cwt.; sample 3d.—DUTTON, Terling, Witham, Essex. r.s.121

FEW fertile Hybrid 1921 Queens, 8s. 6d. each.—HUNT, "Fairview," Westmoors, Dorset. r.s.18

WANTED, as a whole or any part of the following:—A 2 or 2½ H.P. Oil or Petrol Engine, with the necessary dynamo, accumulators, switchboard, wire, switches, bulbs, and other necessary fittings for lighting house with electricity; also 2-in. Force Pump for well 90 ft. deep with overhead apparatus to be driven by above engine.—W. HERROD-HEMPSALL, Old Bedford Road, Luton, Beds. r.q.31

WANTED, Observatory Hive to hold three standard frames and three sections.—Particulars and price to DRAPER, Yew Tree Villas, Parkgate, Swanwick. s.98

FINEST first grade Clover Honey; sample 6d.; strong Stocks on honey combs.—NORTH, Cressing, Braintree, Essex. r.s.99

BUSINESS ADVERTISEMENTS.

1½d. per word.

20 PER CENT. reduction in price of Bottles, best quality clear glass, 1-lb. size, 39s. 6d. per gross (5 gross lots 37s. 6d. per gross); carriage forward. ERNEST GRIFFITHS, Alvanley Road, Helsby, Warrington. s.108

HONEY BOTTLES at wholesale prices, best quality clear glass, 1-lb. size, 39s. 6d. per gross; 5 gross lots, 37s. 6d. per gross; carriage forward. ERNEST GRIFFITHS, Alvanley Road, Helsby, Warrington. s.108

Fertile Italian Queens. 8/6. Delivery by return. PEARSON & GALE, Marlborough.

BEES.—1921 fertile Queens in 3-frame Nuclei of Simmins' Golden Italians and Dutch are bred to resist disease and get most honey. Marvellous harvest.—EDITH RIGBY, Howick Lane, near Preston, Lancs. r.s.47

EVERY queen buyer should use Bowen's Introducing Cage; absolutely certain; 3s. each.—BOWEN. s.114

25S. ONLY!—Cotswold Nuclei with vigorous Queen. Makes excellent stock.—BOWEN. s.115

AUGUST QUEEN SALE.—Send 10s. 6d. for grand Cotswold Queen with "Bowen" Introducing Cage; exceptional value.—BOWEN. s.116

"I.O.W." TREATMENT.—Circular 2d.—BOWEN, Queen Specialist, Cheltenham. s.117

EXCHANGE surplus Stocks for Run Honey or Sections.—LEE, the Beeman, Burgess Hill, Sussex. r.s.123

SPECIAL OFFER.—Strong, healthy 3-frame Nuclei (Hybrids), 22s.; pure Italians, 28s. 6d.; carriage paid; 4 frames, 6s. extra; early September delivery; satisfaction guaranteed; deposit system willingly; travelling boxes 6s., returnable.—A. LONGLEY, 35, Tharp Road, Wallington, Surrey. s.112

STRICTLY BUSINESS.—The Acarine 1921 Eclipse Pad was originally intended to knock out the wax moth, but we found it to act as well against the mite. The vapours cause the wax moth larvæ to come out of their webs and to fall on to the pad where the bees can deal with them. Old Tarsonemus is laid out even quicker, and once he hits the pad he does not move very far, before giving up the ghost. Owing to the present high prices of drugs and chemicals and the large amounts the porous pad absorbs, we regret that we have to raise the price to 5s., post paid. But if it does not give satisfaction you get your money back.—S. H. SMITH, 30, Maid's Causeway, Cambridge. s.119

SERVICE AND COURTESY.—When in 1917 and 1918 we began the free distribution of Flavine the price of that chemical was 1s. 4d. per 5 grammes. We had hardly got it going when the makers jumped the price to 5s. We did not say anything, but kept on our way. The same thing is now happening with the drugs and chemicals used on our Acarine 1921 Eclipse Pad, but we hope shortly to corner enough of them to put up a fight against the ring.—SMITH, Cambridge. s.120

QUEENS, 7s. 6d.; Colonies, 85s., 65s., plus carriage; prompt; pure Italians.—ATKINSON, Fakenham. r.s.102

SCREW-TOP HONEY BOTTLES, 1 lb., 4s. dozen, 42s. gross.—COBB, 33, Bevan Road, Plumstead. s.85

QUEENS, QUEENS.—Guaranteed genuine Penna Italians, bred and mated in Italy. I can supply these excellent Queens by return; gentle, prolific, and with a world-wide reputation, 8s. 6d. each; selected, 10s. 6d.—GOODARE, New Cross, Wednesfield.

HEALTHY DRIVEN BEES, with Queen, 9s. per lot, carriage paid; boxes returnable; cash with order; orders in rotation.—PULLEN, Ramsbury, Hungerford. r.s.21

FOR SALE, Stocks of Bees, £3 3s., and Nuclei, £2 2s.; six Simmins' double Conqueror Hive, with section racks and supers, in very good condition, £5 each; also eight W.B.C. Shallow Frames, complete with drawn combs, 14s. each, and full Sheets of Foundation, 10s. each.—E. R. DEBENHAM, Bladen Dairy Farms, Briantspuddle, Dorset. r.s.27

GLASS QUILTS, 16-in. square, divided, with feed hole, 3s. 9d. each; any size to order; Glass Squares for glazing sections, 4s. 6d. 100; cases for packing 1s. extra.—W. A. SMITH, 117, Gt. Hampton St., Birmingham. r.s.72

GOLDEN ITALIAN and Three-Band Queens, pure home-bred fertiles with finest combined guarantee; prices from 8s. 6d.—E. COOMBER, 64, Ronald Park Avenue, Westcliff-on-Sea. s.65

LEE'S IMPERIAL ORANGE WALLFLOWER, invaluable to bee-keepers, 6d. and 1s. packets.—LEE, The Beeman, Burgess Hill, Sussex. r.r.156

ENGLISH RUN HONEY and Sections bought and sold on commission.—HOWARD LEE, Bowden, Burgess Hill, Sussex. r.r.157

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

FERTILE ITALIAN QUEENS, by return of post, 8s. 6d.—PEARSON & GALE, Marlborough. r.q.96

"THE APIS CLUB."—If you have a live interest in bee culture as a science and a craft, you should join THE APIS CLUB. Membership fee, 10s. 6d. per annum, and includes the free delivery of "The Bee World" as published.—For advantages of membership write to the Secretary, THE APIS CLUB, Benson, Oxon. r.o.37

ITALIAN QUEENS DIRECT FROM ITALY, —Special offers from July 1 till countermanded: Four Queens at a time £1 8s. Cash with orders. Payment by cheques or British Postal Orders. International Money Orders are not accepted. Safe arrival guaranteed.—Address, ENRICO PENNA, Bologna, Italy.

FINEST ENGLISH HONEY, in 28-lb. cans, 1s. 6d. per lb.; cans and carriage free.—PEARSON & GALE, Marlborough. r.14

ITALIAN QUEENS, young, fertile, purely mated, disease free; safe arrival guaranteed; 8s. each Queen; special offer, four Queens £1 8s.—GAETANO PIANA, Castel San Pietro, Emilia, Italy. r.l.83

"WIGHT" DISEASE.—Prevention and removal. Invaluable advice, 8s. 6d. "An eye-opener."—ALF. RYALL, Whiteway Apiary, near Camp, Stroud. r.n.169

"THE BEE WORLD."—*The "winged" paper that circulates. It is read, re-read, and treasured.* Will it not appeal to you? Specimen copy post free.—Publishers: THE APIS CLUB, Benson, Oxon. r.o.36

EXCEPTIONAL OFFER.—*Adminson's Breeder Hive*, fitted with ten standard aluminium semi-combs, costs £4 2s., carriage forward. Worth double this price.—For Adminson's Hives and Appliances write to JAMES LEE & SON, LTD., Uxbridge. r.n.23

FOR ALL BEE-FEEDING PURPOSES
there is nothing better than
"MELTA" HONEY,
the pure West Indian variety, the Honey with a reputation and a guarantee, two 56-lb. tins, 75s.; one 56-lb. tin, 43s. 6d.; four 7-lb. tins, 26s. 6d. Carriage paid for 100 miles.

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Review.

"The Poultry-keeper's Vade-Mecum," by Edward Brown, F.L.S. One of a series of books published by Messrs. Stanley, Paul & Co., 31, Essex Street, Strand, W.C.2, and similar in size and get up to "The Bee-keeper's Vade-Mecum," another of the series. Many bee-keepers are also poultry-keepers, and to these this little book should prove of great value. There is a vast amount of information given in a small space. Every part of poultry-keeping is dealt with in sections, including breeds and breeding—a brief description and illustration of over thirty breeds being given—environment, management, and feeding. The book is of handy size for the pocket, and well bound in cloth, price 2s. 6d. net.

A Dorset Yarn.

"What is propolis?" This was a question put to a class who were qualifying for a B.B.K.A. expert certificate. All gave it as a substance for cementing the different weak parts of hives, etc., but "What is it collected from?" brought many answers. James Scott, the author of "Microscope in the Mill," states that it is a sticky, resinous exudation from the unopened buds of trees and flowers and the ripe bloom off fruits. In the July number of the "Bee World," "Thousands are on the laurels on the young growths, working up the mid-ribs of the leaves, they get something off these buds which with the naked eye it is not possible to see, or else one does not look long enough to see." Dadant's book gives alder, willow, birch, and horse-chestnut; he also states, "and some think, from pines." He either lived in a pineless area, or had a doubt of it. Huber writes of wild poplar, and bees opening the folds of the large buds and extracting the varnish in threads. Dr. Evans writes that they take a varnish from the hollyhock. It seems that it is got at all times of the year when bees are working. Unopened buds of trees and flowers seems to be the correct answer of most writers, but, like other things, there may be still a lot to learn. I have never seen them close their entrance with it; have seen them in the wild state with large entrances, and even with two large holes for entrance in hollow trees. One that was brought to me during the war by timber cutters had a 6-in. entrance; they never closed it with propolis, but they brought their comb down to the base of it, which helped to keep out the cold draughts in winter.

The pollen of some flowers is very adhesive. Some of this may be used in the same manner. Azaleas and rhododendrons are particularly sticky. The stigmas of flowers are adhesive when they are ripe for fertilisation. All writers have noticed how bees will clear off propolis from bars and boards when out in the sun; they use it over again. When bees are transferred into a new brood box, they will clear off the propolis from the old one, if left in the sun only a short time; it saves them a journey to get it close to the hives, when they would have to search the trees for it. The trees that gave it in May might not have in July. Instead of horse-chestnuts, they would have to go to the hollyhock; but then it would not be the same bees to collect in July that harvested it in May, as at that season they work so hard, and live but a few weeks. It must be the wonderful instinct that they possess that guides them to the trees and flowers for what they want.

J. J. Kettle.

Bee Notes from Derbyshire.

A DAY ON THE MOORS.

Unless there is a very great alteration, and that quickly, the heather is going to be a failure this year. I took four hives on Beeley Moor on July 30, went up next day to see them put right, the heather was well out then, but the hot wind that blew that day and the next on the parched-up heath put honey gathering out of the question, and water fetching would be a long, tedious job for the poor bees, for I could not see any within a mile. If they had not got a day or two's supply in the hive, I am thinking brood would suffer, but there was a heavy shower next morning, and consequently plenty of water on the door-step, with a fall of some 10 to 20 deg. in temperature, which seems loth to rise again. Another visit to the hives on August 7 about 11 a.m. strong north-west wind blowing, heather a purple mass, a sight I very rarely see till the 20th. A few bees trying it, to see if the nectar was there, but they came back disgusted, and not in the best of humour. (It is no use, I never saw much honey come on a north-west wind, and it has been west and north-west nine days since August came in, or backing into south-west, and then it rains again.) So I got away from them as quickly as I could, and Mr. D. Wilson having a tent on the Darley side of the moor I decided to give him a visit. Finding him trying to while away the time in a field, we went to have a look at a stock with a Bozzalla queen in it, and it was a sight for bees returning home, they had scented the rain coming that we had very shortly after, and they were vicious. I could not get within twenty yards of the hive, for it seems the best-tempered bees get angry when they have had a good long fly for nothing, so we left them and got among the heather for a stroll and a chat. Although there had been some rain the last

four days the ground seemed parched. As we strolled about we came to two roots of heather. I said: "Well, now. Could anything look more pretty than that?" He replied: "No, and I think it would be hard to find a prettier flower than some clumps of heather are when in full bloom. But the rain coming on made us dive for the tent, and for the next 5½ hours we had a bee chat under canvas. It was really what the heather was wanting, as it had got burnt up so in July there seemed no nectar in it, but it has had copious rain since then, and what it really wants now is a few of those days when the thermometer is between 80 deg. and 90 deg. Then bees would work, and as only bees can work on the heather. I was round them again on the 13th, but they were only working in a desultory sort of a fashion. They do not get the "gallop" on till the scent of the nectar gets up one's nose like ammonia, and it has not been like that yet. I could just see a little in the combs, but a fortnight's gathering had barely kept the wolf from the door. Could I but paint a pen-picture of what Cuckoostone and Farley moors looked like last night. Here is something like 300 acres of heather on a gentle slope, a solid purple mass, and I have two hives on the edge of it, while on the other side is Rushby moors, that were burnt off a year ago. The young heather is springing up, that will soon be a purple mass on that side, too. The heather on Darley, Beeley and Harewood moors is only here and there in patches, but as there is some 2,000 acres of it there, a good half will be bloom.

The clover honey is very clear, but not too plentiful. We wanted this year's sunshine on last year's bloom in July. Clover bloom has been scarce this time.

I have read "Sussex Notes" with interest. I do not think it makes an atom of difference whether one uses excluder or not. I took a rack of clover sections off last night from over an excluder the cleanest I ever saw, and that is something to say, they were full seven weeks ago. I could not have said that had no excluder been on. Do not get into your noddle that skeps do not want capping till the swarm has been in a fortnight. The day King Edward was crowned Mr. George Marshall, at Norwell, put a swarm in a skep, three days after he put a cap on it; seven days after he took it off again, and ran 40 lbs. of honey out of it, so where would it have been at a fortnight's end in that case. Good luck to you! Let us hear how you go on with your heather.

I am not given to criticising anyone's writing, but I cannot help it in these two cases. C. C. Felim (10,497) says: "Is it playing the game?" I say "Yes," and if swarms come along like that I hope he puts more hives out, and gets them, for had anyone owned them they would have been after them, but in all probability they had come out of those trees and roofs, and one that is a capable bee-keeper and can look after the bees leaves out an empty hive; he is doing just what I should be glad to do. Say, was I "Playing the game" last winter? I had two stocks of bees die at Rushby, leaving from 30 to 40 lbs. of honey in the two hives. I went up first week in April, and washed all the combs in Izal water, cleaned hives out well, and fastened them up, as I thought of taking two nuclei up in May. The second week in May I went up to see if any flowers were out, when I found a rabbit or something had undone the entrances, and quite a lot of bees were fetching the honey out; in fact, only 3 lbs. were left in one hive, so I got the bees out and nailed it up to make sure. I thought: "There, you have fetched the honey out the other. I'll leave it undone, perhaps you'll come and live there when the fit takes you." A few days after I carried a six-frame stock and put over the combs with 3 lbs. of honey. I still saw a few bees nosing around the empty hive. I thought: "I can see you mean coming to live there yet." On May 23 I went again, and as I went past the house the mistress said: "Why your bees were swarming all in the yard here yesterday. I asked: "Did they go back?" She said: "Yes, they went back." I said no more, but went on, and found they had come to live in the beeless hive as I had surmised. But a more bedraggled, forlorn lot of bees I never saw. They covered four combs, and their wings were worn to a shred with flying to and fro for all that honey they had fetched away. I said: "Well, you are sensible bees to be sure, to carry all that honey away, and then come to live in the empty hive, but I will try and make you comfortable." The bees that were in the hive before them had died crawling in March. I fetched the last twenty and queen away in a matchbox. I doused the combs and hives with Izal ever so strong, but they heeded it not. I worked them up till they covered 10 combs, and they were pretty straight combs, too; then I put excluder on, and a rack of sections. They filled them, and I put another on. I took it off last night, clover sections from a few fields among the heather. In a week or two I hope to take some as good heather sections off the same hive. I had not looked in the bottom since I supered it, but it was a treat to see the ten straight combs. One outside comb was solid with honey, the other nine had an inch along top bar, the rest was brood. Though not one of the best of queens, and does not pack her brood very solid, but for yellow bees their comb building is a treat to see, and for handling they are the very best I ever had.

Though it was annoying to find they had fetched my honey, they have paid me back in full. They had more honey in the brood combs than they fetched out of that hive after I had taken the sections off. Nobody has ever inquired about them. A swarm went off from the other hive a few weeks ago after I had run a virgin queen in at the entrance, but I never bothered to look for them, for they are "Dimmons," whoever has got them is quite welcome. They beat aught ever I saw for stinging.—Tom Sleight.

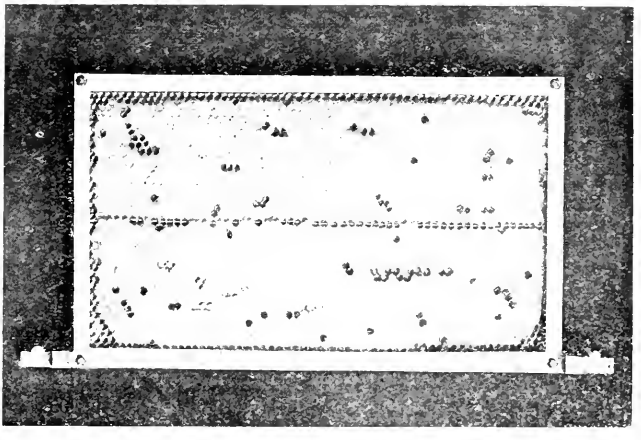
August 14.

The Metal Comb in Practice.

We have already drawn attention to the useful practical articles which are appearing regularly in the "Bee World" on the use of metal combs in general, and specially in relation to the semi-comb produced in this country. The August number of our contemporary is of special interest in view of the exhaustive treatment of this subject, and the various practical hints, reports, and illustrations which provide clear guidance to the progressive bee-keeper.

A little while ago Mr. B. C. Berkeley suggested in our columns that the management of metal combs is based purely on common sense. This may be so to a large extent, but experience also counts. Readers will be interested to know, for instance, that one of the most profitable methods of using metal combs is to have them first for the super, and, after extracting, transfer them to the brood chamber, when excellent brood combs may thus be obtained.

Another interesting point is the liberty which may be taken with metal combs *after* the first season, since they become almost on a par with wax combs. In fact, it is misleading to write of bees wintering on metal combs when, in reality, they would be wintering on the superimposed wax extensions. The super metal combs no doubt fill a greater need, since they may be placed above ordinary wax combs, and are safe in storage. They undoubtedly mark a distinct advance in modern bee-keeping.



An Impressive Semicomb (British Standard) of Brood on the Point of Emerging.

Originally the cells in the line of the wire were considered as waste. In practice, however, the bees fill the bases with wax up to the level of the wire and gradually utilise such cells for pollen storage, and sometimes the queen lays in them, the resulting cappings being higher than the rest.

The Intelligence of Bees and Bluebottles.

Sir John Lubbock, later Lord Avebury, contrasted the intelligence of bees and bluebottles to the advantage of the latter. When a bluebottle finds that the transparent glass of a window is nevertheless impossible, it soon gives up its vain efforts to get through.

I want to point out, however, that it has no express desire to go in that particular direction. If there were meat on the table it would probably prefer to remain or to return. The bee, on the other hand, has an overmastering determination to get home. We can think of her as crying out: "Who will be doing my work in the hive? What will they all think of me staying away so long?" So she keeps trying to find or bore her way through the stubborn glass, until she actually dies of exhaustion

I had a queen bee and some workers in a glass-topped box for a lecture in the country, and wished to take them also to the Highland and Agricultural Show at Stirling the following week. As bees are the cleanest of creatures, and when healthy void their excrements only while on the wing, I spread a paper in front of a closed window and opened the box.* But instead of having to catch them on the window, as I had meant to do, all except the queen came back to the little box, which was their only home, poor things. I have repeated the experiment with the same and with different bees, and within half an hour all had voluntarily returned to their makeshift home, except the mother bee,

* Eight spots on the paper showed that each of the workers had speedily availed themselves of their freedom.

who readily crawled in too when the box was held near her on the window. This proves that it is no lack of intelligence that makes a bee value her liberty more than her life.—JOHN W. MOIR, hon. treasurer, Scottish Bee-keeping Association.

P.S.—Since writing the above, I have released the workers at an open window. After disporting themselves in the open air for a few minutes, all but one came back to their box and queen, although they were quite near the hive from which they had been taken 12 days earlier.—J.W.M.

Two Queens in a Hive, etc.

Last month, whilst examining a large hive consisting of three chambers of twelve standard combs I discovered two queens upon the same comb, and upon the same side. One, the mother with clipped wings was in the act of laying, and her fine daughter I had interrupted in the act. I persuaded the two queens to meet, which they did, but quickly parted amicably in search of empty cells. There was an empty queen cell on one of the combs from which the young queen had emerged. Only one cell had been made. This was not the ordinary case of supersedure, as the parent queen was not more than twelve months old; the hive was massed with workers, and the combs in lowest chamber were just slabs of worker brood from top to bottom. Being very busy at that time I caught the young queen and placed her above excluder. I afterwards wished I had left them together.

I have often wondered whether other bee-keepers who raise and handle a number of queens have experienced how queens will fly to them as if for protection, should they be lost when out flying, been badly treated upon introduction, etc., or flown whilst combs were being examined; also when hiving large swarms having several queens. Many a time I have had a virgin queen fly on my hand, or neck. Once I put the queen back with the swarm that was hiving, and from which she seemed to fly, but back she flew again and alighted upon my finger, though I had moved to another part of the apiary. I then examined the swarm and found that they had several queens. Another time I found a queen quite happy between my neck and blouse whilst I was lunching. She had to wait quite an hour before I could return her to the nucleus I had missed her from when examining. These little ways, although a trial sometimes, make us love our queens more.

"Loose Bee."—I was greatly surprised the other day when receiving a packet of queens from abroad to find "Loose bee," written by the postal authorities upon a piece of paper gummed on the side of one of the cages. I said to myself, "If one can get out, more can, and, perhaps, the queen also." But upon examining the packet, to my surprise I found the "loose bee." It was a worker, and had travelled outside the cage on its own, being fed by the bees inside through the wire cloth. It had not been inside either of the cages for all were intact. I think it speaks well for some one in the Postal Service to shut this little creature in with gummed paper, write across, and stamp it in the way it was done. I can't help thinking that it must have been some one who was a great lover of insects, so many would not have gone to that trouble.

Perhaps some of the readers of the "B.B.J." would like to try a very simple way of giving onion to their bees—just place a thick slice at the entrance of the hives, where the bees will run over it. Now that we have the supers mostly off, the odour cannot hurt the flavour of the honey, and I find my bees simply love to suck the juice. I should be glad if some readers would try the effect upon unhealthy bees, placing several slices at the entrance, and when dry remove and place fresh ones. Bees are too healthy around this district just now to put this treatment to the test for Isle of Wight disease. Yesterday I united two stocks by placing a slice over the frames, as I had been giving a few stocks a treat, and it happened to be near at hand. To-day, on placing the frames close up to each other, I found all happy, including the queen.—FLORENCE E. PALING, Henfield, Sussex.

New Zealand Bee-Keepers' Association.

We have pleasure in publishing the following letter, as it shows the work that has been done in investigating bee diseases is appreciated in other countries:—

"22, Owens Road, Epsom, Auckland,
"New Zealand, June 14, 1921.

"Mr. A. H. E. Wood,
"Glassel,
"Scotland.

"Dear Sir,—

"At a lantern slide lecture on the recent discovery of the mite *Tarsonemus woodi*, delivered before the eleventh annual conference of New Zealand bee-keepers, at which there were 120 present from all parts of the Dominion, the following resolution was put before the meeting at the close of the lecture, and carried unanmously:—

"'That this meeting of New Zealand bee-keepers in conference tender a hearty vote of thanks to A. H. E. Wood, Esq., Chairman of the Aberdeenshire and Kincardineshire Bee-keepers' Association, for his magnificent gift of £500 a year for five years, which enabled Dr. John Rennie and his associates to carry out their researches with such remarkable results, that has not only benefited British bee-keeping, but also the same for bee-keeping throughout the world.'

"'Mr. Isaac Hopkins is asked to convey the resolution to the gentleman.'

"I need scarcely remark that I do so with very great pleasure, and I shall post you a copy of the lecture when published.

"Yours sincerely,
"(Signed) I. HOPKINS,
"President, Auckland Branch, National
"N.Z. Bee-keepers' Association."

Echoes from the Hives.

The heather honey flow so far has been a fairly good one here, and sections are filling up rapidly. This district contained many small bee-keepers, nearly all of whom have lost their stocks through I. of W. disease.

In many cases their hives are left just as they were, to the peril of the rest.

Diseased stocks were sent to the moors some years ago, and rapidly spread the malady. Surely it is time that power was given to prevent bees being sent from an infected area into a sound one, as well as to stop the practice of leaving infected hives open to be visited by all the bees in the neighbourhood.

In cases of swine fever and other diseases of animals vigorous measures are adopted to prevent the spread of infection. Why not apply similar treatment in the case of the bees? A. MEYSEY-THOMPSON.

Lastingham.

An Old Bee-Keeping Statute.

The troubles of the bee-keeper are not confined to modern times, when the carelessness of some people with regard to disease leads to a desire for legislation. Doubtless, however, there is greater honesty in the craft nowadays than there was in the time of Queen Elizabeth. An Act passed in the year 1581 shows that the honey and wax trade was a flourishing one, for it begins as follows:—"Where by the Goodness of God this Land doth yield great Plenty of Honey and Wax, as not only hath and doth suffice the necessary Uses of the Queen's Majesty and her Subjects to be spent within this Realm, but also a great Quantity to be spared, to be transported unto other Realms and Countries beyond the Seas, by way of Merchandize, to the great Benefit of her Majesty and the Realm."

Unfortunately, the growth of the trade had apparently led to the growth of fraud, for "a great part of the Wax made and melted within this Realm has been found to be of late very corrupt, by reason of the deceitful Mixture thereof, and the Makers and Sellers of Honey also have not only used to put the said Honey in Cask of deceitful Assize, but have used also deceitful Mixtures of the same," so the Act penalised every maker or melter of Wax who should "after the Feast of *Pentecost* next ensuing," use or practise "any Manner of Deceit by mixture and mingling the same with Rosin, Tallow, Turpentine, or any other deceitful Thing, to the intent to sell and utter the same." The penalty was to be 2s. for every pound, "whereof the one Half to the Queen's Majesty, the other Half to the Party deceived, if he will sue for it."

Wax melters were further required to stamp each cake of wax with their initials in order the better and the sooner to discover deceit.

As for honey, "all Barrels, Kilderkins, and Firkins filled with Honey by the Maker and Filler" were to have the man's initials burnt upon the head of the cask with a hot iron, with a penalty of 6s. 8d. for every cask not so marked, and honey-sellers who gave short weight were fined "five shillings of *English* money" for every half-gallon lacking, while honey found to be corrupted with any deceitful mixture was forfeited, one-half to be to the Queen's Majesty and the other half to him that should sue for the same.

How nice it would be if British bee-keepers once more had such a great quantity of honey and wax that much could be spared for transport to other countries beyond the seas! (MISS) E. H. DARNEY.

Retford.

The First of the Season.

(AFTER WALT WHITMAN.)

Buzz! *Wonk!* No luck!
Behold, I am not one who—— missed him again!

Behold (as I was saying), I am not one who habitually
Maltreats insects.
Insects! Birds! Fishes! Reptiles!
All these I can put up with
Not bees?
Not on your life.
Hola! Missed him again!

I am the man with the peaceable mind
I am the man who wouldn't hurt a fly
But if I could catch that bee,
I'd——
(Look out, tanface, he's crawling down your back)
—Teach him who was the lord of creation.

Allons! Let us try again.
Vases, pictures, the sampler stitched by my landlady, the photographs of the fellows I knew at school, the china dog, the
Present from Herne Bay!
Smashed! All smashed!
Such is life!

He is the Bee! The first faint buzzing. The whirr! The strident hum.
Wonk! Another picture smashed.
He is the Bee! Ruthless, restless, tireless.
Eyeing my form in search of the best place to deposit his sting! The Bee!
The first I have seen this year.
The Bee.

OW!!!
OO!!!
!!!!!
Camarades, I am stung!
Hola, the blue bag.
Buck up tanface, can't you see it swelling?
The first I have seen this year.
The BEE!

—Author unknown. Contributed by MRS PHARAIL, Rayleigh, Essex.

Questions, &c., for Bee-Keepers for Self-Examination.

(Students are recommended to write their answers, and check them afterwards by reference to books.)

561. Describe the shaking treatment for foul brood.

562. What may lead to the killing of the drones earlier in the year than usual? Explain why.

563. Why does a weak colony accept a new queen more readily than a strong colony?

564. In what respects is sugar less advantageous as an article of human diet than honey?

565. What should be done with bees driven in, say, August, from a skep and put into a frame hive?

566. Explain why giving the bees in a hive, which is being robbed, some honey with a little brandy in it tends to stop the robbing.

567. How should sections of honey be graded for sale?

568. What separate odours are there in a hive of bees, which, together, make up the "hive odour"?

J. L. B.

CORRESPONDENCE

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Playing the (Dirty) Game.

[10503] I do not often aid your columns with any matter, as I would rather open a beehive at any time than write a letter, but as you are asking an opinion on the above I have no hesitation in saying it is playing a dirty game, and, apparently, your correspondent does not feel quite easy in his mind, or he would not ask the question, but I think if he had the fortune (or misfortune) to follow a swarm of his own and see them go into another person's hive that was ready with combs, his mind would soon be made up.

As regards how far bees fly in a swarm, they will go for miles, as they will rest when tired out, and off again when the sun gets up next day, unless someone meets with them (which is often the case), or they find a suitable place to make their home; but I should say the bees that find their way into a hive ready fitted up with combs do not travel above the two mile limit, as the scout bees find it out and they go straight for it.

But to somewhat change the subject. We were very hard hit with Acarine disease last winter, owing, I think, to the adverse summer we had in 1920. Myself, I had a bonfire on Good Friday, and burned 139 standard frames of comb as taken from the hives with the dead bees. I just mention this to show you I am a believer in sheets of foundation in preference to combs, and, I think, if combs were done away with much more than they are we should be very much nearer in stamping out the disease. The honey we have taken is of a very excellent quality, and the quantity would have been all right if we had only been able to winter our bees; even now the season is much better than 1920.—C. W. DYER.

The U.S.A. Honey Crop.

[10504] The honey crop in the U.S. is good, bad to indifferent in spots, while prices are chaotic, with about 10 cents for white extracted wholesale to 20 cents retail, in 5, 10, 6 and 12-pound containers.

I had a heavy flow up to about July 27, and the bees are now working on sweet clover, and a good prospect for a fine fall flow from heartsease, as we had seasonable showers to date, and about an inch of rain in the past twenty-four hours.

East of here a hundred miles there is nothing, and Mr. Dadant writes me from Hamilton, Illinois, that there is no flow there. I am advising bee-keepers here to hold their honey, and the same might apply there, for conditions will certainly improve in the near future.—A. F. BONNEY.

Notes from Durham.

[10505] I am a novice of 20 years' standing, and although greatly interested in bees and your Journal, have never wrote you before, but having drunk deeply of honey this year, I feel inclined to now sling ink about.

First, let me tell friend "sinner" A. J. Ridley, I am pleased he lives in Sussex and I in Co. Durham, for he says he "cleaned up Lady ———'s hives, whose bees had died of I. of W. disease, and left the worst hive open, full of the dirtiest combs." Now my experience this year has been my empty hives closed up, and a "friend's" left open. Two of my swarms have gone to his empty hives. Luckily, I was able to follow them, and I got them without any bother, but if I had missed them, possibly I would *not* have got them.

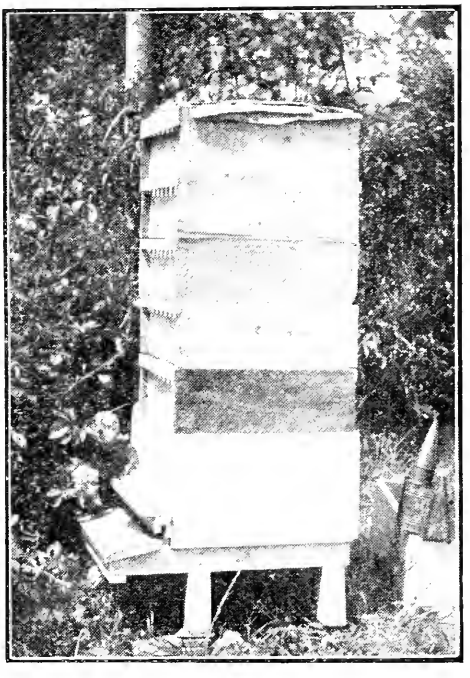
Now to happier themes. This has been my best year, and up till this season have played a very lonely hand, but now other three friends have gone in for honey and stings, and they have sent their hives (one each), with swarms in, to get stores for the winter. Just "for luck" they put a few sections on, and, with a friend, I went up to see them on the moors, and we got the surprise of our lives, for they were working away like steam in the sections, and my two hives were also doing well; so we came away very happy, for after we got to "Bee-land" everyone we met talked "bees," and although I was a stranger in the land (Muggleswick) we were treated with the greatest of kindness, and the journey to the

station (six miles, and walking) was accomplished without knowing it was half that distance.

Hoping everybody has a good heather season, and that some more "locals" will air their experiences.—E. T. S., West Pelton, Co. Durham, 22/8/21.

Results from a "Candyfed" Stock.

[10506] I herewith enclose you several photographs, all full of interest, but the one I wish to refer to particularly is the "candyfed" stock, which also built comb in the winter (see my letter, 10,423, p. 156, "B.B.J." April 7), as many bee-keepers would like to know how it is progressing. April 8. I gave four cakes of candy, and it had five combs of brood. April 28. I found seven combs of capped brood. As the weather looked promising I put on first box



of shallow frames, which was soon occupied, and on May 13 I put on two boxes more of shallow frames, knowing there would be a great increase of brood from what I saw on April 28. I did not disturb below, but before I placed shallows on I lifted one frame of comb, with honey and bees, putting it in the new box, and replaced with an empty one. May 25, finding third box of shallows nearly full, I put on the fourth box, repeating my enticing comb first, and on June 11 I found it necessary to put on the fifth box, owing to the greater bulk of honey not being sealed, so, therefore, not ripe for extracting, and on this date I took the photograph. Looking in again on June 28, centre combs were fully drawn out and beginning to seal over, also I noted nectar was not coming in so quickly. The owner being very busy with fruit picking, and marketing the same, it is left over till this week, when we hope to extract and I must let you all know later the season's result from the candy stock of bees.—T. H.

The Biter Bit.

[10507] After a supercilious criticism in his editorial of a fellow parson's use of loose terms in an article on bee-keeping, the editor of a contemporary says: "When experts undertake to instruct beginners why do they not adapt their language to the understanding of the uninitiated instead of using much involved technical terms which can only confuse and mislead?"

Quite so. Now let us take "The Month's Work" by the editor *As an Expert to Beginners*, in the same copy of the paper in which he writes the above:—

Supers.—"On the other hand, honey intended for extracting rather improves on the hive. It may be left so for a little longer, or until required." *Verb. Sap.*

"If bees hang out, give a fresh crate fitted with foundation, *over* existing supers."

How a *crate* is to be fitted with foundation is not stated. I find it better to fit foundation into the sections.

"One may at this time remove one or two of the outside frames from the brood nest, and so force more honey into the supers."

What a mistake we have been making in keeping bees for the production of honey, when by the simple operation of moving frames honey is forced into the supers. It has the advantage also that it may be done all the year round, so that owners of *hives* may by this new method soon become millionaires.

"While nectar is plentiful, extracting may be done in the open, afterwards only inside closed doors."

No instruction is given as to size these doors should be made, *inside* which one could extract in comfort.

Queen Excluders.—"On the other hand, with congestion, bees will swarm."

Again it does not say whether it is congestion of the lungs or bowels which brings this about.

Increase.—"One can by removing all supers force his best stock to swarm, and four or five days after the swarm leaves he can form nuclei for rearing queens by dividing it up into *hives* of two frames of brood, and one of honey and pollen on each side."

Will the editor kindly explain to the novice how to make a *hive* of his frames of brood, etc.? I usually use wood for this purpose.

"He should contract the hive with division boards, and give a ripe queen cell to each hive."

Would it not be better to use a steam roller to *contract a hive?* More pressure could be brought to bear than using light division boards, and is the queen cell given before or after contraction.

Artificial Swarming.—"Close up the upper hive, care being taken that there are no drone brood or drones in the queenless part."

There aren't, aren't there? and this from an M.A., too.

Queen Rearing.—"It is from stocks of good pedigree that we should raise the future parents of our colonies."

And for years I have been worrying to rear them from queens.

"Insert a frame of foundation in the centre of a good honey-producing colony; go to the next best one and form a nucleus with the queen."

This is quite a new idea, the only thing that worries me is to know whether a nucleus is a queen or a queen a nucleus.

"In three or four days the frame of foundation will be filled with eggs."

Those queen nuclei or nucleus queens are wonders. No need to wait for the bees to build out cells, or yet to buy aluminium combs as they lay on the foundation, or is it like the closed doors, of such a size that they can lay inside?

"Prepare this frame by 'scolloping.'"

Is this a fish or bee story?

"They will now give all their energy to raise a supply of queens from the selected *frame*, and you will get a superior lot of young queens."

Wooden queens, in fact, and guaranteed to last longer than the hives made of his frames of brood, etc.

Enough for the present. I may in the future send you a few more broken panes made by the man who lives in a glass house, and is fool enough to throw stones.

CHESHIRE CAT.

Clipping Queens' Wings.

[10508] In your footnote to letter 10488 you decide against the above practice. May I therefore be allowed to enter a plea in favour of it?

In the first place, in America, where apiculture is an extensive industry, the practice would appear to be widespread, if not universal. This alone is a strong argument for it. Root says the modern bee-keeper "cannot afford" not to clip his queens, and the late Dr. C. C. Miller always clipped his, and considered it "a necessity" in all out apiaries. The opinion of these men carry weight.

During the swarming season, a stock with a clipped queen doubtless requires more methodical and careful watching than one with a flying queen. In the former case, probably the safest plan would be Dr. Miller's method of a *thorough* examination for queen cells every eight to ten days as described in his "Fifty Years Among the Bees." Without this, in an out-apiary at least, there would certainly always be a risk of missing a swarm and having it come out again later with a young queen. Against this, on the other hand, with a flying queen, the same thorough examination is necessary if swarming is to be forestalled, failing which, the swarm comes out and stays out, and, except in a home apiary, is as liable to be lost as one with a young queen. Besides, with a clipped queen one generally gets a few days' interval after the swarm with the old queen, before it again comes out with a virgin, and the chance of preventing it is thereby increased.

This year we had two stocks five miles from home, with clipped queens. Miller's method was not adopted in its entirety, consequently queen cells got missed (Every comb must be shaken clear of bees if *all* cells are to be discovered.) Both stocks swarmed, luckily, while we happened to be on the spot. In one case the swarm returned without clustering, the combs were carefully examined, and, as the clipped queen was still present having apparently not left with the swarm, all queen cells were cut out and the colony went ahead without further trouble, storing over 100 lbs. in shallow frames. In the second case, the swarm had a virgin, the old queen having previously disappeared, probably with an abortive swarm. Contrary to expectation it did not fly to any great distance, and the hive was gone through, all "cells killed," and the swarm run back within an hour. This colony also went through without further trouble. On this experience I mean to continue keeping only clipped queens in hives away from home.

Regarding supersedure, we seem to find that clipped queens are more readily replaced. I say "seem" because it is by no means certain that this finding is not simply due to the fact that, with clipped queens, supersession can never take place unnoticed as, otherwise, it assuredly does in many cases. Clipping would be desirable for this identification alone. And besides, supersession is a thing devoutly to be wished for; it is the cheapest way of getting first-class young queens, if it does not take place at an inopportune time, and we have not found it to do so as a rule.

A further advantage of clipping is that it renders queens more easily noticeable among bees on a comb.

Apparently Mr. Springett *wants* swarms. He should find it easy to gratify his desires in this direction, since most of the rest of us are hard put to it to prevent swarming. But if he wants to "make sure of the swarm," he would be well advised *not* to clip his queens.—DELTA S.

[As we said in the footnote referred to, "clipping" is a matter of opinion. We are quite aware it is extensively practised in America. For all that it is not a plan that commends itself to us, and, as we said before, we do not practise it. We have tried it, and admit it is useful at times, but even in the two cases given above there was a big element of luck which will not always hold.—EDS.]

Swarms from a Swarm.

[10509] With regard to a swarm from a swarm, it may be of interest to numerous readers of "B.B. Journal" to know Mrs. Fletcher, of Saltoun Hall, has a stock which swarmed on May 19. The swarm weighed 6 lbs., and it has swarmed four times; first,

June 20: second, July 5; third, July 8; and fourth, July 10. Besides I have taken off 50 lbs. of honey to date. I should like to know if this is a record, as each swarm weighed on an average 5 lbs. of bees each. I may say that last two swarms were put back into hive.—HUGH COOLEY, July 15, 1921.

A Reader's Suggestion.

[10510] As a reader of your bright little Journal, may I venture to express a wish that your contributors would be a little more explicit, and not take it for granted that all your readers know everything about bee-keeping. Many a time when I have read, "Then Mr. So and So did this or that," have wished for fuller explanations. For instance, in the August 18 Journal your reporter, in describing the demonstration given by the Rev. E. F. Hemming, says that the reverend gentleman gave a lecture on "Uniting," but does not report a single word of this lecture, which would have been most interesting to those of your readers who get swarms in plenty, but very little honey. Your reporter might have told us *why* Mr. Hemming united, *what* he united, and *how* he did it. Then again, he tells us of the traps Mr. Hemming set for his visitors, but leaves us quite at sea as to what was the secret of each, and why they were faults. One can understand what is meant by No. 1 "Bad Spacing," and 2 and 3; but why, in No. 4, a brick should *not* be placed on centre of roof passes my understanding. *Surely* it was put there to keep the wind from blowing the hive top off. Does he mean that rope and tent pegs should be used rather than bricks, or what? Then what is meant by "No. 7, *Entrance exposed for wasps*"? How can we let in the bees, and at the same time keep out wasps? From the number of wasps coming into my hives I imagine they must eat most of the honey the bees make. Is it really possible to keep the wasps out? If so why did not your good reporter tell us how Mr. Hemming works the trick? No. 11, too, is a puzzle. In some of my hives, "Taylor's," the escape is placed high in the angle, and in others much lower, but your reporter said not a word of how one is to tell right from wrong. Please ask him and others to be less sparing of their paper and ink and make matters plain for beginners like F.M.S.

American-Italian Queens.

[10511] In an issue of the "B.B.J." someone advised readers of that journal to buy Italian queens reared in the United States, as they are better. Chancing to meet Mr. C. P. Dadant, publisher of the *American Bee Journal*, I quoted this to him, when he at once replied:

"I should not. We can get much better queens from Italy than are reared here from imported mothers."

We reckon Mr. Dadant pretty good authority in bee matters in this part of the footstool, and I am glad to quote him.—A. F. BONNEY.

Dr. Bonney's Method of Queen Introduction.

[10512] Referring to inquiry No. 10478, I thought I had made my method of introducing queens very simple, and Miss Gordon seems to have had no trouble.

This method involves queen introduction, uniting colonies and the old "shook" method in swarming, that is, removing the parent hive and putting the swarm in a hive containing neither honey nor, particularly, brood.

When the queen is put into a hive free of honey and brood it partakes of the "shook" method; when she is united with the returning field bees it resembles uniting colonies. The peppermint is used to change or neutralise the odour of queen and attending bees, and, of course, the returning bees, while I am of the opinion that the menthol in the peppermint destroys the sense of smell in bees for a time.

The gentleman might have inferred that the queen is introduced in the travelling cage, as I say at the beginning of the circular I send out.

Later on you may try turning the queen loose when B is put in place.—A. F. BONNEY.

A Skyscraper.

[10513] One sometimes reads tall stories in your BEE JOURNAL about big takes of honey and other things connected with bee-keeping, and I am sending you a photo. of a tall hive of black bees I have in my garden, and if you think it of sufficient interest you may publish it for the benefit of others in the craft. The lady I bought them from said they came from Jersey, and a friend of mine, our local expert, says they are Dutch. They have not swarmed, and I don't think they will. As you may see by the photo, I use the American pattern hive to take the standard and shallow frames, and I make them in my spare time. I prefer this pattern hive to any other because I find it so easy to control swarming. The hive bodies are all interchangeable. This stock of bees now occupies 66 combs—50 standard and 16 shallow. Our local expert kindly assisted me on July 1, when we had a look through and found the combs in the lower bodies choked up with honey, and the bees filling the cells with honey as fast as the brood emerged. So thinking another body would be dangerously high, we took out some of the sealed combs and put in frames filled with "Airco" foundations, enough I think to last until the honey flow is over, which happens about the middle of July in this district. You will see by the photo I have given them ventilation half way up the hive, which serves a double purpose and is much appreciated by the bees, and saves them hanging around outside the entrance wasting valuable time. If you would like to know the yield from this stock will write you again later. Although this is considered a poor district for bees, I think this stock has done very well for A NOVICE.

July 6, 1921.

[Sorry we are unable to reproduce the photograph.—EDS.]

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

Various Queries.

[9928] I have often come across the words "honey flow on" or "honey flow cease." Could you kindly let me know how is one to know whether there is a flow on or off.

I have a hive which was about half-strong in March, which has produced a lot of sealed brood, and from which I have taken combs to help another hive, or try and rear queens. It has slabs of honey in the brood chamber, but only seven frames. I put section rack on last Sunday, and moved partly drawn-out combs on each side of brood (capped). I notice at midday the bees are in sections, which are most of them drawn out, but no honey seems sealed. In my meadow of three acres there is plenty of clover bloom left, and some bees are working. During this month, every year since 1917 or so, I find bees gather no honey, though there is clover and roses about. Roses are of little use to them, I suppose.

Would it do any good if I took the combs of honey from the brood chamber and stored it for winter, and put either drawn-out empty combs instead of full foundation frames? Would that induce bees to work in sections? I thought also if I were to cut a square slab from brood honey comb and put it in the middle of section rack it would act as bait.

Last year they started well (two hives), because, in despair, I let the queen lay in section racks. There was a bean field near, but after June no result. I am puzzled to know whether it is the district's fault, or the bees, or their struggle to maintain themselves against disease, or my inexperience. They were originally a stray swarm, perhaps from my 1917 diseased bees. The queens I have seen are black, and the bees have some yellow bands. I got a Board of Agriculture Italian queen, but she has disappeared—"balled," I presume, because it was windy when I failed to de-queen my best hive, and had to exchange hives and produce commotion, etc. Anyway, the golden 11s. 6d. is gone. Since 1917 I have had about two section racks of honey, but am always hoping. I am beginning to think bee-keeping is hopeless here. I know I have made many mistakes. One, being afraid of the "Isle of Wight" disease I had to start with. I have the hives too far apart for uniting. Last year a lady hived a swarm for me while I was on my holiday. They seemed too golden to be mine, and had no covering for a week or more except roof. They only covered about two frames or so in a hive about big enough to hold twenty or twenty-four frames. All through the summer and autumn they never became more than a two-frame or so, never increased and never dwindled. By having a few combs added and places exchanged they are now almost seven or eight frames strong, and are trying to rear queens. These had Italian queen, as it was the only one I could de-queen.

Next year I think I will have the hives near. What distance apart should they be? What is a good time to move same?

I should very much like if the Rev. Hemming, or someone, would write an article on what can be learned from the alighting board. I should like to know is carrying pollen a sign that honey is also being carried? My point is: Can a bee get honey without bringing in pollen as well? I am not a botanist. Do bees carry pollen without at the same time carrying honey? I find great difficulty in finding the queen. Is there no way of de-queening by means of excluder?

I am troubling you with a lot of questions. I have a hive disinfected, left in the weather, sun, etc., which had acarine disease in 1917. It is now at the end of a shed. Would it be safe to use it for a colony, as Dr. Rennie seems to say hives are not disease carriers? Thanking you in anticipation.—ARF.

REPLY.—You may judge when there is a honey flow by noting the amount of forage available for the bees, and the "vim" with which they work. Roses are of very little use to bees. Removing combs of honey might improve matters, as it would give the queen more room. A section with drawn-out comb and a little honey will often act as bait; better not put brood in the section rack. Your plan would spoil a good brood comb, and the brood might be chilled.

Hives should be 6 ft. apart, if possible, but we have kept them with success not more than a foot apart. One has to be ruled by circumstances. Move the hives any time after the bees have been confined to the hive by cold weather for a fortnight, or more. Early February is usually a good time.

Bees may carry either honey or pollen alone. You can shake the bees into a box, and make them leave it through a queen excluder, but it is not a good practice.

The hive would be safe to use again now.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d. up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

September 7 and 8.—Glasgow District Bee-keepers' Association, in conjunction with the Glasgow and West of Scotland Horticultural Society, at St. Andrews Halls, Glasgow. Open Classes for Honey.—Schedule from Peter Bebbington, 15, Pitt Street, Glasgow. **Entries close Saturday, September 10, at Brentford.**—Middlesex Bee-keepers' Association, in conjunction with Brentford Allotments Association's Annual

Show, at Wesleyan School Hall, Cliſden Road. Five Classes for Honey. Open Classes: One 1-lb jar of 1921 extracted honey, one 1921 section ,one aluminium semi-comb of capped honey. Classes confined to members of the Middlesex Bee-keepers' Association: One 1-lb. jar of 1921 extracted honey, one 1921 section. Prizes: 10s., 5s., 2s. 6d. each class, and bronze medal of the British Bee-keepers' Association for best exhibit. Semi-comb prizes: £1 1s. and 10s. 6d. No entrance fees. Exhibits (excepting semi-combs) become the property of the above-named Associations.—Entries, to be made on a postcard, to R. R. Babbage, 33, Whitestile Road, Brentford, Middlesex. **Entries close September 5.**

September 14, at the Town Hall, Twickenham.—Twickenham Horticultural Society's Annual Exhibition of Vegetables and Fruit. Honey exhibits under the control of the Twickenham and Thames Valley B.K.A. Open classes for single bottle and section. Silver challenge cup and silver and bronze medals in members' classes. Schedules from Miss M. Byatt, "Hawthorn," Hanworth, Middx.

September 17 to 23.—British Bee-keepers' Association Annual Show at Grocers' Exhibition, Royal Agricultural Hall, Islington, London. Entries close September 5. Schedules from Hon. Sec., B.B.K.A., 23, Bedford Street, Strand, London, W.C.2. **Entries close September 5.**

September 21, at Altrincham.—Altrincham Agricultural Society. Largest one-day Show in England. Several Open Classes for Honey, etc. Good prizes.—Schedules from Herbert Turner, 1, Market Street, Altrincham.

Saturday, September 24, 1921.—Staffordshire Bee-keepers' Association. The Autumn Exhibition of Honey, etc., will be held in the Technical Buildings, Stafford. Seven Classes for members only. Also for the best exhibit of honey in a metal comb, open to the world. Entrance fee 1s Prizes, £1, 10s., and 5s.—Schedules from the Secretary, W. Griffiths, Solway House, Silkmore, Stafford. **Entries close September 22.**

October 1, 1921 (Saturday).—Harrow Bee-keepers' Association, in conjunction with Harrow Horticultural Society, at Greenhill, Harrow. Class 42, Open to the United Kingdom, one section of honey, 1921. Prizes: 20s., 10s., 5s. Exhibits become the property of the above Association.—Particulars from J. L. Rogers, 289, Station Road, Harrow. **Entries close September 28.**

Special Prepaid Advertisements.

One Penny per Word.

Trade advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1½d. per word as "Business" Announcements, immediately under the ***Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 7s. per ¼in., or 12s. per inch.***

PRIVATE ADVERTISEMENTS are only intended for readers having* Surplus Stock *to dispose of.* Driven Bees, Nuclei, *and* Queens that are reared or imported for sale, *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.

Advertisements must reach us NOT LATER than FIRST POST on MONDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

WANTED, 10 to 15 stocks of Bees at once.—Quote lowest price to LOUDON, Lambhill, Strathaven. t.5

PURE LINCOLNSHIRE HONEY, 28-lb. tins, £8 per cwt.; sample 4d.—THOMPSON, Helpringham, Sleaford. t.6

ITALIAN QUEEN, imported August from Davis, Tennessee, U.S.A., 10s.—MOIR, 64, Polwarth Terrace, Edinburgh. t.8

GIVING UP KEEPING.—Hive of strong, healthy Bees on ten frames, supered; extra hive fitted with ten frames and super, smoker, sprayer, feeder, hat and veil; lot £6; carriage extra.—H. SOUTHWORTH, 11, Scot Lane, Blackrod, Chorley, Lancs. t.3

FOR SALE, HONEY suitable for manufacturing purposes; best offer accepted; samples free.—MRS. YARRAD, The Laurels, Swaton, Folkingham. t.7

FOR SALE, Extractor, geared, reversible, perfect; also other requisites; list, etc.—THORNTON, Homefield, Prestatyn, North Wales. t.1

SEVERAL Stocks Italian Hybrids on ten combs, 1921 queens, strong, ready for the heather, no disease; 8s. per frame; travelling box, 10s., returnable.—Box 37, "B.B.J." Office, 23, Bedford Street, Strand, London, W.C.2. t.4

BIRMINGHAM.—For sale, Beehives, wired Frames, etc.; cheap.—174, Jockey Road, Sutton Coldfield. t.9

WANTED, Honey; exchange pure Wyandottes, Leghorns, or Aylesbury Ducks.—MOLE, Cherry Lane, Lymm, Warrington. t.11

A COMPLETE APIARY for sale; the property of a lady going abroad; equipped with all modern appliances, W.B.C. hives, and a splendid strain of bees.—Apply, in first instance, GEORGE, 7, Woodside, Oswestry. r.t.12

FREE DIAGNOSIS of bee-disease; September only.—Send samples and stamped envelope for report to DR. SMITH, Pitfourie, Pitlochry. t.28

FOR SALE, 4 stocks of Bees in box hives, £3 3s. each, or £12 the lot.—A. TOWNSEND, Blackthorn, Bicester, Oxon. t.29

RED CLOVER HONEY all sold; 2 cwt. light sainfoin honey, £8 per cwt., 56 lbs., 1s. 6d. per lb.; medium coloured honey, £7 15s. per cwt.; all tins free and carriage paid; samples 6d. each. A good honey sells readily. I have it.—THOMAS, Causeway, Burwell, Cambs. t.24

FOR DISPOSAL.—Three strong stocks of healthy Italian Bees, on ten frames of special make, with extra wide top bars; ample stores for winter; no disease; 60s. each; crate 10s., returnable.—NEEDHAM, Hemel Hempstead. r.t.26

LAND on which apiary stands being offered for sale, will sell about 30 strong, healthy Stocks English and Hybrid Italians, on 8 combs, at £4 each, carriage paid; travelling boxes charged 10s. unless returned. No disease in apiary.—F. M. FALSHAW, Avondale, Stocton Road, Guildford. r.s.103

A COMPLETE APIARY.—Seven strong, healthy Stocks of Italian Hybrids in seven W.B.C. 10-frame Hives, 24 spare drawn-out Brood Combs, two extra Brood Boxes, 32 Racks with shallow frames, mostly drawn out, 16 new 28-lb. Honey Tins, seven used ditto, eight regulating Feeding Bottles, one Porter Escape, one Geared Extractor, two Uncapping Knives, 200 Metal Ends, 12 Spare Lifts, etc., etc., price £40.—R. O. FORDHAM, Broom Hall, Biggleswade. r.s.105

FOR SALE, four healthy Stocks, good stores, 1921 Queens; also various Appliances.—Shortheath Beacon, Farnham, Surrey. r.s.113

A FEW good fertile 1921 Hybrid Queens for Sale, 6s. 6d. each.—ADKINS, Moorlands, Harpenden, Herts. t.10

Fertile Italian Queens. 8/6. Delivery by return. PEARSON & GALE, Marlborough.

FEW 8-frame Stocks, Hybrids, July Queens, 63s. —Beech Cottage, Longton, Preston. s.105

HONEY.—Pure Extracted Clover Honey, good flavour and colour, in 28-lb. tins, 1s. 6d. per lb.; sample 6d.—J. B. MARSHALL, Garforth, near Leeds. s.124

FINEST first grade Clover Honey; sample 6d.; strong Stocks on honey combs.—NORTH, Cressing, Braintree, Essex. r.s.99

BUSINESS ADVERTISEMENTS.
1½d. per word.

QUEENS.—PRYOR, Breachwood Green, Welwyn. r.t.13

TINS. TINS. TINS.—Good quality strong lever-lids, 28-lb. size, 1s. 10d. each; 20s. dozen; 7-lb. size, 1s. each; 10s. dozen; carriage extra.—CLARIDGE, Copford, Colchester. t.14

QUEENS. QUEENS.—Limited number Pure Italian Queens, select tested, 10s. each. Surplus Queens from healthy driven hybrid stocks, 5s. each.—CLARIDGE, Copford, Colchester. t.15

HYBRID STOCKS on 9 frames, very strong, 50s.; Dutch Nuclei, 25s.; Honey, good, medium. What offers?—MATTHEWS, 25, Cray Road, Crocken Hill, Swanley, Kent. t.16

IT'S IN THE CANDY.—Flavine, S. Bee Candy; made in Cambridge and the wrappers bear our name. Price, 10s. per 6-lb. parcel; postage paid.—S. H. SMITH, 50, Maid's Causeway, Cambridge. t.17

THE ACARINE 1921 ECLIPSE PAD is worth 5s., but so you may test it we will forward a Pad for the cost of the postage, 6d.; warranted to knock out mites and moths.—S. H. SMITH, 50, Maid's Causeway, Cambridge. t.18

EXCELLENT HONEY TINS; handles, bolted lids, 7 lbs., 1s. 2d.; 14 lbs., 1s. 8d.; 28 lbs., 2s.; carriage forward.—BOWEN. t.19

CHAMPION CROCUS BULBS.—Plant now; invaluable for early pollen; yellow, 5s. 9d., 6s. 9d., 7s. 9d. per 100; mixed, 4s. 9d.; post free.—Litman, Castle Cary. r.t.25

QUEEN'S, reliable, 1921, fertile, 5s.—WOOLDRIDGE, Woodleys, Winchcombe, Glos. t.27

EVERY queen buyer should use Bowen's Introducing Cage; absolutely certain; 3s. each.—BOWEN. t.20

AUGUST QUEEN SALE.—Send 10s. 6d. for grand Cotswold Queen with "Bowen" Introducing Cage; exceptional value.—BOWEN. t.21

"I.O.W." TREATMENT.—Circular 2d.—BOWEN, Queen Specialist, Cheltenham. t.22

EXCHANGE surplus Stocks for Run Honey or Sections.—LEE, the Beeman, Burgess Hill, Sussex. r.s.123

QUEENS, 7s. 6d.; Colonies, 85s., 65s., plus carriage; prompt; pure Italians.—ATKINSON, Fakenham. r.s.102

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Seasonable Hints.

Preparation for wintering should now be pushed forward. Slow feeding to stimulate breod-rearing where necessary may be continued for another week or ten days, or even longer in the warm southern counties. Rapid feeding should be commenced not much later than the middle of the month, and the syrup given should be thick and warm. Weak colonies should be united without delay. A colony that does not cover at least six combs should be looked upon as weak. Remember that the best winter packing for bees is *bees;* if they are young ones so much the better. Wintering down with a strong force of young bees is a safeguard against spring dwindling. While we do not deem it advisable to be continually dosing apparently healthy bees with medicine, it is a good plan to medicate the food given in autumn as a precaution against Acarine and Nosema diseases. Any of the remedies advertised may be used. We have found nothing better than "Bacterol" for this purpose; others have obtained good results from Flavine, Izal and other remedies. But only use one, as it is quite possible if two or more are used a chemical reaction may be set up which will neutralise the action of each, or be detrimental to the bees.

Give attention to the hives, and make certain they are weather-proof, especially the roofs. Damp is very harmful to bees during the winter, and may easily prove fatal. Nothing can be worse for them than damp quilts in the winter.

Keep all entrances fairly close, and when manipulating do not expose the combs more or longer than necessary. Use two quilts, or carbolic cloths when examining combs, rolling one up and unrolling the other as the work proceeds, only exposing the comb that is being examined, and the space from which it was lifted. If it is necessary to remove a comb temporarily in order to give room, do not stand or hang it outside the hive, exposed to the attentions of bees from other colonies and wasps. A very few minutes' exposure will suffice to attract these, and the resultant excitement will not die down directly the hive is closed again, but may continue for hours, and cause an attack on the colony by robbers. A hive holding more than the usual ten combs is an advantage, as there is abundance of room: failing this, have a bee-proof comb container, or box.

A Dorset Yarn.

JUDGING HONEY.

In awarding prizes for honey at horticultural shows the judges have not an easy task, at least not with extracted honey in jars. They all seem to have it right in giving the highest points for flavour, but that is where the diversity comes in, all tastes differ. At a recent exhibition all the judges differed as to what was the best; they co-opted another horticulturist who kept bees, and he differed from all the others, which made matters worse. It ended in what was best (in my opinion) not coming in the first three. I remember once going to see a member of a large grocery business, and saw several small cups of tea steaming on a table without milk or sugar. This member of the firm was giving his award on the flavour, and I expect if it was left to more than one they might not be the same in taste. At this show one who has won nearly every award in horticulture there is to be won (his house is like a museum with trophies of horticultural exhibitions), stood out, as his knowledge of bees and honey was limited, yet his award after tasting was, in my opinion, nearest the best. Of course, it is difficult to get all to be unanimous, but after the density, clearness and colour is pointed up, the flavour should decide which is the best. One judge said he could taste wax and pollen in what appeared to be the clearest of the lot; it was accentuated in the next lot (this judge averred), yet each was extracted by the orthodox extractor and strained through twice to get it the best. I have noticed that judges from north of the Tweed give the award to that which has a taste of heather. We get this here. If the exhibitor knows who is to judge, he is on the high road for a prize if he caters for his tastes. In giving prizes for a display of bee produce, some judges I have found award most points for comb honey; with this there is no taste to make these diverse judgments. Filling the section and finish make up the points evenly, but these are oftentimes over laced, and the judge has to clear it off to see if full; but it is taste and aroma that makes for diversity of opinion in the extracted honey. Some guides give the points as follows:—Colour 10, density 30, flavour 25, freedom from froth and bubbles, from pollen grains and wax 20 points. In judging fruit flavour should have the highest number of points; in honey density ought not to have more points than flavour and aroma, but this is only my opinion. Some of us keep the best flavoured sections and send to market those that are harvested when there is nectar from some flowers we object to in honey. Privet and sweet chestnut are disliked by many, but fruit blossoms and clover are generally liked by all. We have kept some that has the flavour of wild thyme and mint. We have from many of the racks we take off a sample for tea—if exceptionally flavoured we keep that rack. With a lot to extract it must be several weeks harvesting. This must be from many flowers—to get the flavours from different flowers one must ex-

tract while they are in bloom. Bees were on white clover in June, then each week's honey if extracted would be almost wholly from clover. In May it was charlock among the corn crops that gave such a lot of extracted honey. Then the flowers finished; the dry summer has made almost a dearth of charlock since.

Mr. T. T. Gething, of Chilmark, Salisbury, who came to see me this week, tells me of sainfoin for extracted honey. He is famous for his work in stone (he is a quarry owner), but his spare time pleasure is bees. If there is a large acreage of sainfoin, bees collect almost wholly from this; where this grows there are not so many forest trees; it is near the homes of the wealthy that immense trees of lime are plentiful. Extracting when these are in bloom one gets lime honey almost pure. A friend of mine gets his surplus almost wholly from the lime (he is a gardener on one or those large estates where lime trees are immense); the branches are down on the ground, as no cattle are ever in those large pleasure grounds. He gets no surplus after they finish. He does not like the flavour of lime honey; his wife uses it to sweeten cakes, which are delicious to eat. These trees yield such a lot in some seasons. The Wimborne bee-keepers get a lot of lime honey, but they have it blended with the sweets of other flowers in addition. At the East Dorset Exhibition of honey, all the honey from North Dorset (which is a chalk area) was of a very light colour, but from the Wimborne area it was all of a deeper shade, only two lots were very dark. Though there was nothing but numbers on the jars to judge them by, one could see the source from which it came. One particularly thick light honey, which had many points for density, lost them for flavour; one of the judges (who is a horticulturist) thought it had the taste of Portugal laurels, but when the names were put on the exhibits this lot was found to come from Blandford, near Lord Portman's wonderful grounds, which have some of the finest trees in the South of England, and trees from every part of the world that they could acclimatise on the estate. There may be many that bees like, but all may not give the best flavoured honey. The flavour should be delicious, then the buyers will want more.—J. J. KETTLE.

Jottings from Huntingdonshire

So much dry weather having followed the refreshing rains of three weeks ago, the whole prospect of an autumn honey-flow has vanished. As I review the past season I am bound to confess it is inferior in some respects to that of 1920. This statement, I know, will startle some readers who are not familiar with the flora and weather of this county. To many bee-keepers last year was the worst since 1888, and without doubt it was trying, but not as this. Opening with wonderful promise 1921 rushed on apace, and long before June arrived honey was stored in supers, excellent in quality and quantity, but the long-continued drought dried up the mid-summer sources of nectar, and the August honey-flow, which in previous years has been considerable, wholly failed this year. It is now up to us to see our stocks are strengthened by uniting or feeding up, or both. Re-queening will be necessary in some cases. Wax moth larvæ should be looked for and cleared away.

Galleria cereana is likely to be a greater enemy than ever this year, the season has been in its favour, and although strong stocks of bees can generally manage to keep this pest at bay, it must be remembered that the female moth is very cunning, and will risk a great deal in her endeavour to find a suitable place for depositing her eggs. At the hour of sunset a walk among the hives will reveal a surprising number of wax moths watching opportunities to enter the hives. They are easily killed. Where Swiss hive entrances are used the hive can be closed during the night, but the moths can be trapped. Sweetened water, a little table relish with a pinch of salt, placed in a glass jar, top covered with paper in which a hole has been pierced, will, singularly enough, entrap wax moths as well as wasps. Beer can be used, but is not so attractive.

In looking down the advertisement columns one sees that healthy driven bees are still purchasable. Where one has weak stocks and has not the bees on hand for uniting, money paid for driven bees for strengthening up is well spent. Any stock of bees not covering at least six frames may be considered weak. Uniting can be accomplished in various ways. If driven bees are used, they may be first introduced to a hive in which are four to five frames containing drawn-out comb. This hive must, of course, stand quite near to the stock needing strengthening, and the bees must be fed. After a few days, when it has been decided which queen is making best preparation for winter by free ovipositing, both lots are given a few puffs of smoke, and then the frames of the older stock spaced apart, the adhering bees being well dredged with flour, or sprayed with some syrup (not sweetened). The frames of driven bees can then be taken out and dredged or sprayed, and the combs placed in the hive alternately with those of the stock. Another method is to place the driven bees in a box over the frames of the stock to which they are to be united. Between the box and the frames must be a sheet of perforated zinc—the upper bees, needless to say, being fed. In two or three days both lots of bees will have submitted to their lot, and the odour of the hive have taken on the necessary smell; the zinc may then be gradually drawn aside to allow inter-communication, the queens being left to fight out the question of sole regality. The finest spraying agent is a matter of opinion. Bacterol is good, Yadil is good, peppermint is good, aniseed not quite so good. Sweetened syrup is bad—it entices robbers. Still another method is to feed up the driven bees—if they have come some

distance get them to gorge themselves full—dust them well with flour while still in the travelling box. This can easily be done by placing the box lid downwards, and getting the bees to rise to what has been the bottom of the said box; reverse, move the lid, and dredge well; then dredge the bees in the hive, and introduce the driven bees as if returning a swarm. There will be some fighting, but not more than twenty bees will perish before peace is declared. The surest of all ways, perhaps, is to reduce the bees to the condition of a swarm, but as this is rather a tedious process one is inclined to adopt methods more expeditious.

My last words this week are in the nature of a question. In moving a drone-breeding queen (a year old) to a new stock she began laying worker eggs; in transferring a worker breeder to a new stock she has degenerated to a drone breeder. Has any reader had a similar experience?—E. F. HEMMING.

Steeple Gidding.

The Joys and Sorrows of Bee-Keeping.

Since sending my last article to the BRITISH BEE JOURNAL there have been "ups" and "downs" in connection with my hobby of bee-keeping. The honey harvest is exceptionally good. From one hive I took 80 lbs. of honey. One comb turned the scale at 8 lbs. The bees are very busy at present. There is abundance of flowers in the lanes and fields. Such flowers as wild thyme, sage, mint, heather and ivy are in full bloom. In some spots the white clover and trefoil are flowering again after the drought. In the garden the bees are very busy on the sunflowers, sweet alyssum, early arabis and violets. They return to the hive in numbers. It is a treat to watch them working so hard from early dawn until twilight. Bee keeping is becoming very common in this neighbourhood again. Many, whose bees died off a few years ago, are once more going in for bee-keeping. My first swarm was during the second week in June, and I lost it. My daily work takes me 16 miles from home every day, and if the bees swarm I am not on the spot to look after them. I gave them abundance of room in the hive, hoping this would prevent swarming, but one evening, on returning about 6.15 p.m., I noticed a skep and bee-apparatus in the hall, knowing quite well what they meant. The bees had swarmed, but not in our garden. I was told they had settled in a garden a little distance away. So after a hurried meal I took up the bee apparatus and sallied forth to take the swarm, not thinking for a moment of any objections that might be raised. I went to the garden in the village where they were supposed to have swarmed and asked permission to take them. I was told they were not there, but they had decamped to the woods across the Tamar. In passing through the village I inquired of some men if they had seen a swarm of bees They had seen one going to the woods earlier in the afternoon. So to the woods I went in the faint hope of tracking them. Seeing a cottage on the edge of the wood I advanced to make inquiries. Some children were playing around the cottage, and I asked the mother if she had seen a swarm of bees that afternoon. "No, sir," she replied, and pointing to her numerous children remarked that was the only swarm she had seen that day. I told her she was a very lucky woman to have such a swarm of happy, healthy children. So up the hill I went to other cottages, but with the same disappointment. One cottager remarked that I could not claim the bees unless I followed them when swarming. The sun was now sinking below the Cornish heights in the distance, and so I made tracks for home. On crossing the River Tamar and looking backwards towards the hilly slope of the opposite bank the panorama seen was full compensation for the loss of the bees. The hillside was clad with pines, oaks, mountain ashes, beeches, poplars, sycamores, and the different green tints of the leaves gave a charming effect. Away in the distance stretching like a wide sea was Dartmoor, lit up by the rays of the setting sun.

The following day, having a half-holiday, I overhauled the hive, and was surprised to find such a large amount of honey. Most of this was uncapped. I could scarcely believe a swarm had left the hive the previous day, as the bees were so numerous and thick on the combs. There were two queen cells, and in order to prevent a "cast" I took four combs covered with bees and one with a queen cell and placed them in an empty hive. (Was this a wise thing to do?) Everything went smoothly for a time, but the queen cell did not hatch, and I opened the cell and found the grub dead and shrivelled. During the drought the bees from the original hive ransacked the other hive. Wasps, too, were very troublesome. The latter have been numerous in this neighbourhood this summer. Some dreadful battles have taken place between the wasps and bees. Early in the year I put on a rack of sections. The bees, however, will not use them. These sections have metal plates separating them I think it is this metal that the bees do not like. They have closed up the openings into the rack and have built comb around instead of in the sections. It is most annoying, as the comb has to be cut away. Will you kindly tell me what to do to induce the bees to work in the sections? The drones are being killed already. Is it not early for this? There was a peculiar hum or droning issuing from the hive the other day, and on approaching to investigate was horrified to find such wholesale slaughter of the drones The droning was like a death-knell. In fact, it was a death-knell. The worker bees were tearing off the wings of the drones, and then two worker bees would take hold of a drone and pitch it overboard. On the ground below the alighting board many drones were in the last throes of death, and like ravens and vultures were the blue tits sitting on the

apple trees ready to fly down and pick up the mangled remains of the drones.

September 2, 1921. GEORGE ORD.

South Devon.

[It is quite right to make a nucleus in order to prevent swarming.

We cannot say why the bees refused to enter sections. It is very unusual for them to close up the entrances to the sections. Try a "bait" in the rack another year. This is a drawn-out section containing a little honey, placed in the centre of the rack.

In many localities the drones were killed off in July, and have generally been killed off earlier than usual this year, but August is not early for this annual slaughter, even in Devon.—EDS.]

A Trip to the Trent Valley and Back.

By TOM SLEIGHT.

June 17, 1921.—Not having much to do for three days I take a bike ride towards Lincoln. It is lovely weather, pretty hot, as I go up by Wingfield church at 1.30. Clay & Co.'s men are busy loading a hay wagon, with the tractor drawing a picker behind it, but I do not envy the men loading it, as I guess it must be pretty warm work. Going past Hilby Fields I see a few men and boys trying to clear some turnip rows of charlock. What a year this is for this weed. Standing on Ashover Hill a few days before I counted over thirty fields covered, or partly so, with this flower. On through Holmewood, where they are putting houses up at a rapid rate, to Heath and Palterton. Pushing a bike up Palterton hill is good exercise on a sweltering afternoon. How nice and refreshing was that drink of water that springs from the hillside there. As I come into Bolsover a great many of the miners are trying to while an hour away with amateur cricket. On the outskirts of Bolsover I pass Tinsley's fruit farm, where a good crop of apples and pears maturing on the trees is ample proof of the good bees are on a fruit farm.

Having now gained the highest point on my outward journey I coast along to Whaley. I have passed several clover fields, but here is one demanding closer observation. It is a sight, nice and fresh, not burnt up and drying, as many were I saw later, so I just step inside a few yards; it is all of a hum with bees. Proof that "Isle of Wight" disease had not quite cleared all the bees out of Derbyshire; two or three hundred yards further on I saw where they were taking their honey to, and what beautiful honey it would be, too, off that clover, as the scent was nearly overpowering. But I must leave this glorious hum and pedal on through Langwith to Cuckney. Just by Cotton Mills, Langwith, I pass another clover field, but never a bee could I hear in it, so they are scarce there. Through Norton (where six weeks earlier I had seen the solitary stock, the remains of a once large apiary) I pass that beautiful drinking fountain that the Duke of Portland put up in memory of a brother killed there, and had he searched the world over he could not have put up anything that is more suitable to cyclists on a hot day, for quite twenty drew up to drink the few minutes I was there. Further on the young men of the district were learning to swim in the lake, two or three hundred of them. They were as happy as if they were at Blackpool, and some of them could swim quite well. There is not much to note as one passes through Carburton. The pretty little stream that I first passed over at Whaley is held up in millponds and lakes along that roadside for a great way. In places I saw a few trying their skill with rod and line, and to those interested I might say I saw a large one [?Trout, EDS.] under the bridge at Carburton. Crossing the Worksop road I follow the stream into Clumber Park, where it leaves you, as you cross to go up the famous lime tree avenue to Apley Head. What a cool road on a hot day, about three miles; two rows of large lime trees on each side the road, a sight to behold. What a happy hunting ground for the bee, which I am afraid is very scarce around there, for I espied a clover field outside the trees, but not a bee could I see on it. [We know that avenue, but it does not always yield the honey one would expect. We have known seasons when bee-keepers quite near have not had a bit of surplus from them.—EDS.]

This seems to be one of the most famous routes for a drive round the Dukeries, judging by the number of motors and chars-à-bancs that passed me along there. Coming out at Apley Head Lodge you get on to, or cross, the old Roman road from Ollerton to Doncaster. It is *the* road for cycles, the best I came across anywhere. On it is the old posting house called "Normanton Inn." Having some bread and cheese in my pocket I thought a detour of a mile or so would not be out of the way to get a pint of beer to wash it down. As I sat across the way eating it, about 6.30 p.m., and admiring the scene, I saw one of the finest lime-trees I ever cast eyes on, just bursting into bloom, and it will be one mass of bloom when out, from the ground to its topmost bough, and that looked some fifty feet high, and the swallows were disporting themselves in the evening sunshine scores of feet above it.

Retracing my steps to Apley Head I pass the earliest field of wheat I saw; it is in full bloom, and actually turning yellow on the stalk. That means a July harvest in that field. Once more on the road I pass a 40-acre field of barley drilled on May 8, and it looked a treat considering it had never rained on it since the day it was sown. The sheep pastures of clover and ryegrass were pretty brown and bare, as many about here had cut and lead their seeds [Red clover, generally.—EDS.], because they had given up growing. Turnips cannot grow on this hot sandy land. I saw a field on Elksley Forest, where the rough winds of a few days before had levelled the turnip rows up with dry dusty sand, that nothing

can grow in without some wet. Elksley is on the edge of the sand land, from there through West Drayton (where I cross my earlier friend, the stream, which has got to be a fair-sized river now; in another half a mile I pass two more which all join into one to make the River Idle, that passes through Gamston, a little further down), to Markham Moor Inn, where I cross the Great North Road, and as I climb East Markham Hill I come across a fallow field of red clay, clods as hard as boulders, and as big as horses' heads. That land will stop where they farm it, wind does not take it across to someone else's farm. No, they set it up rough like that for the sun to dry it through, and then all the weeds die in the dry lumps. It grows good, fair wheat crops after it. But about Markham they seem all orchards and raspberries till I get out towards Darlton. There they seem to grow wheat and beans to perfection. Such wheat crops that do not need another drop of rain if they are going to stand up till they are ripe. Going into Darlton I pass a farm that has a fine rose garden, some twenty yards square, trained on arches and pergolas, and on beds that had taken years of time and patience to get to that perfection; a contrast to it just over the hedge was a half-acre patch of *nettles* four or five feet high. I have not passed many root crops, but potatoes are looking well everywhere.

(*To be continued.*)

Norwich Notes and Notions.

The editor's remarks on the false impressions that a few delirious writers on the possibilities of bee-keeping give is, by the way, the most sober article that has appeared for a long time. Personally, I should like to be the unseen guest, when the local income-tax official makes a call, he would not perhaps believe that it is only business that makes one break at least one of the commandments.

A large hive with teeming thousands of bees strikes some with awe. The main point is missed, viz., that whatever make of hive or size of frame, the bees, given the desired room and ventilation in a good locality, will store the goods.

The season is finished here, and even in poor districts bees have given a good surplus.

One Italian stock I divided early, and now have from the divisions six strong stocks with good stores, some combs a picture to behold; one or two were a bright lemon colour, and others quite white. These stocks could be halved again to make twelve with fertile queens added and feeding, but the wasps are such a plague that it is not worth while to risk it.

I am feeding with soft candy. This I think is better than syrup, as it prevents robbing. I should like to hear of the uses of beeswax. Could it be made into foundation again by myself? What makes that scent that one smells with new foundation, also how is wax rendered so light that one buys at the shop? I have a lot melted from old combs. I do not like to retain pollen clogged or misshaped combs. After a lot of messing I find no sale for beeswax.' A lecturer on bees stated in Norwich that a person lost all his bees with "Isle of Wight" disease in North Norfolk, and he only put in pure Italian queens, and result right, too. A meek lady's voice was heard: "I have a pure Italian stock just died this afternoon." *Verb sap.*

Years ago when sulphur was used the sulphur di-oxide used to disinfect the skeps, and, after all, is not sulphur burned in fever-stricken houses at the present time? If I go to a stingy stock I always use sulphur in smoker. It may be coincidence, or it may be the extra vitality, anyway, I have never known any of those stocks to have disease.—A. TROWSE, Eade Road, Norwich.

August 28, 1921.

New Forest Bee-Keepers' Association.

Yesterday, August 27, should have been a red-letter day in the annals of our Association, as, had it not been for the prolonged absence of our Hon. Secretary on business and the difficulties experienced by other members of the Committee in collecting members over such a scattered area, a full char-a-banc load of us should have paid a visit to Mr. J. J. Kettle at Corfe Mullen, near Wimborne. As it was, a dozen of us succeeded in arriving there by divers means at 3 p.m. Self-invited though we were, nothing could have exceeded the warmth of the welcome extended to us by Mr. Kettle, and within a few minutes of our arrival we were among his bees listening to his dissertation on the merits or demerits of each hive. What struck us most was, I think, the simplicity of his appliances. His hives, workmanlike and effective, are made on the premises out of packing cases, soap boxes, etc. Some even lack paint; but that is no deterrent to the bees, who evidently appreciated the honour we were paying them by behaving in an exemplary manner. Blacks, hybrids and Italians were all *en evidence*, though Mr. Kettle informed us that an Italian stock had yielded him the best return this season. This same stock has developed a peculiar habit of not removing its casualties further than the edge of the alighting board. Mr. Kettle's fifty odd hives are located in two small enclosures, one a garden adjoining the house, and the other an old orchard half a mile distant, now rapidly becoming renovated under its owner's wizard hand. Both sites afford perfect shade and shelter.

Bees were well up in the supers of all the hives we examined. Mr. Kettle has a small square of glass let into the covering of the top rack of sections, or shallow frames, thus facilitating inspection. From his bees we passed on to his various gardens and fruit orchards, our host regaling us the while with stories of his early life—his struggles, his successes and his failures, though of these last

there seemed singularly little evidence. From his gardens, with their rows of tomatoes under glass, of apples, pears, plums and cherries, of Boskoop Giant currant bushes, of Lloyd George raspberry canes (this last his own production), we passed into his well-farmed fields and inspected his herd of sleek, well-fed dairy cows. But I have omitted the violets, acres of which must nestle under the fruit trees and between the rows of bushes and canes, for "Violet Farm" is the delightful name of Mr. Kettle's home.

It is his firm belief that the bee is an essential accessory to man if he is to reap to the full the fruits of the earth; and to the diligence of his bees, and not to his own skill and knowledge, does Mr. Kettle very generously attribute his success as a grower of fruit and flowers. But he is too modest; for is it not the master mind that wrests such secrets from Nature and applies them, and do not his bees owe their existence as much to him as do his fruit trees and flowers? He lavishes on all his productions, animate and inanimate, all the care and skill of which his kindly, generous nature is capable, and well do they repay him.

We concluded our tour with a glimpse at the pigs and a look into the bee room, with its piles of appliances and cases of sections, glass jars and standard and shallow frames, prepared and preparing for sale and exhibition, and then wended our way across the road to the Parish Church Room, where our host's daughter had prepared, and was soon dispensing, a sumptuous tea. A few minutes later and we had taken leave of our host and were returning through the lengthening shadows whence we came. But the memory of this happy afternoon will live long in our minds, and let us hope that some of our members, at any rate, will take a leaf out of the Dorset farmer's book and resolve to woo Nature and win her with the same persistence, resource and enterprise that have made him what he is.

Lest anything I have said above should convey the impression that Mr. Kettle's bee methods are too primitive, let me hasten to correct it. He aims at being self-supporting as far as possible, and ruthlessly discards what is not serviceable and effective. He has half a century of experience as a bee master behind him, and he is pre-eminently successful. Need I say more?

H. W. K.

The Wickham Bishops and District Bee-Keepers' Co-Operative Association.

An interesting and well-supported exhibit of honey was staged by the above Association, in conjunction with the local flower and vegetable show held at Gt. Totham, on July 13.

Considering the short time this Association has been in being, its organisers are to be congratulated upon the large number of entries, which were very well prepared and packed. The only faults noticeable were the overlacing of sections in a few cases, and the newness of some of the extracted honey, which caused a little froth to show after bottling. The judging was undertaken by Mr. L. Belsham, of Heybridge, and Mr. Claridge, of Copford, who made the following awards:—

Members Only.

Class 76, six sections (6 entries).—1, Miss A. Collins; 2, Mr. O. Crouch.

Class 77, three jars extracted (7 entries).—1, Mr. A. C. Tew; 2, Mrs. M. C. Hunwicke.

Class 78, one shallow frame (2 entries).—2, Mr. G. Lake.

Class 79, trophy of 40 lbs. (2 entries).—1, Mr. T. Hammond; 2, Mr. A. C. Tew.

Open to Essex.

Class 80, four sections (10 entries).—1, Miss A. Collins; 2, Mr. O. Crouch.

Class 81, one 1 lb. extracted (9 entries).—1, Mr. F. Bird; 2, Mr. W. G. Tunmer.

Class 81a, cake of wax not over 1 lb (6 entries).—1, Miss A. Collins; 2, Mr. F. Bird.

Open to Britain.

Class 82, one 1 lb. jar of 1921 extracted (18 entries).—1, Mrs D. B. Smith; 2, Mr. A. E. Jackson.

Although lying in a rather out-of-the-way district, it is very gratifying to find the support given to this show, and attention of other local committees may well be directed to the amount of the prize money offered, in class 79 being a guinea, and class 82 £1. Undoubtedly these prizes made it worth the while of competitors to do their best, and, coupled with the energetic committee, success is assured to their future efforts.—T. HAMMOND.

Notts. Bee-Keepers' Association.

The annual summer conference of above was held at Beeston, on Saturday, August 20, when about 50 members and friends assembled to talk bees and exchange notes. On arrival there were a number of objects of interest, to view which well occupied the attention during spare moments.

At 3.0 p.m. the meeting settled down to hear a discourse on the development and the wiring of frames, but before this was begun Mr Riley made a few sympathetic remarks on the loss to the Association caused by the death of one of its oldest members, viz., the late Vice-President, Mr. A. G. Pugh, after which his name was honoured by the meeting rising to their feet and standing in silence for a short time.

Many old frames were shown to illustrate their variations, also a number of various distance-givers, or spacers and ends.

Different methods of fitting up and wiring frames were shown, and theories given as to the cause of bees building comb on the face of foundation instead of drawing it out. These matters created quite a lively discussion on various points, which lasted to the exclusion of other matter until it was time to partake of tea, which had been prepared by a small committee of ladies, and to which all did justice.

After tea a short tour was made of Beeston as a little diversion. It somewhat filled the

inhabitants with surprise to see such a large company parading the streets.

The meeting was resumed at 6 p.m. Competitions had been arranged for sections, extracted and granulated honey, and for wax, and these were judged openly to the audience for their education in honey judging. This appeared to be well received, and greatly appreciated by them.

The awards were as follows :—

Class I. (extracted).—1, G. Marshall, Norwell; 2, W. Trinder, Edwinstowe.

Class II. (extracted).—1, G. Marshall, Norwell; 2, W. Trinder, Edwinstowe.

Class III. (granulated).—1, J. Ward, Inkersall; 2, W. Trinder, Edwinstowe

Class IV. (beeswax).—1, G. Marshall, Norwell; 2, W. Trinder, Edwinstowe; h.c., Mr. Saddington, Ossington.

The conclusion of the judging with its comments brought to a close a very pleasant time spent together, which, it is believed, everyone enjoyed. There were other items in the menu, but time did not allow of them being dealt with.

Shows of honey, bees and wax were held at Newark on August 26, and at Aslockton on August 27, both in connection with allotment holders' shows, and proved very successful, there being a fair number of entries at each place. The awards were as follows :—

Newark.

Class for sections.—1, G. Marshall, Norwell; 2, W. Trinder, Edwinstowe.

Class for extracted.—1, W. Trinder, Edwinstowe; 2, G. Marshall, Norwell; h.c., A. W. Broadberry, Collingham.

Class for granulated.—1, J. Ward, Inkersall; 2, W. Trinder, Edwinstowe.

Class for bees.—1, G. Marshall, Norwell.

Class for wax.—1, W. Trinder, Edwinstowe; 2, G. Marshall, Norwell; h.c., J. T Baines, Caunton.

Aslockton

Sections.—1, G. Marshall, Norwell; 2, W. Trinder, Edwinstowe.

Extracted.—G. Marshall, Norwell; 2, W Trinder, Edwinstowe; h.c., the Rev M W. B. Houston, Langar.

Granulated.—1, W. Trinder, Edwinstowe

Bees.—1, G. R. Bostock.

Wax.—1, G. Marshall, Norwell; 2, G. R Postock.

Staffordshire Bee-Keepers' Association.

The annual honey show, held at Cannock on August 13 and 15, was a big success. The Committee are to be congratulated on their enterprise. The attractive prize money, low entrance fees, and the reduction of number of jars and sections for the convenience of exhibitors from a distance, has tended to make the success achieved, as shown by the list of entries.

The judge, Mr. J. Price, of Stafford, had great difficulty in placing the awards, and all exhibitors are to be congratulated on the fine display of honey staged.

LOCAL CLASSES.

Class 137, four 1-lb. sections (four entries).—1, M. Partridge; 2, J. Smith, Gailey.

Class 138, four 1-lb. jars light honey (six entries).—1 (equal), M. Partrige and J. Smith; 3, A. Pegg.

Class 139, four 1-lb. jars of medium honey (five entries).—1, M. Partrige; 2, J. Smith; 3, A. Berresford.

Class 140, four 1-lb. jars of granulated honey (four entries).—1, A. Pegg; 2, M. Partrige; 3, A. Berresford.

Class 141 (Novices).—J. W. Stephenson, Wedges Mills.

Class 142 (special offered by Messrs. D. W. Clarke & Son to customers purchasing bee appliances from them) (five entries).—1, A. Pegg; 2, M. Partrige; 3, J. Smith.

At this, the premier honey show of Staffordshire, the county bee-keepers have proved once more that Staffordshire honey can hold its own with that of any other county.

The silver medal of the Staffordshire Bee-keepers' Association was won by Miss Capewell for most points by a member, and the bronze by Mr. E. Jacques.—(*Communicated.*)

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Foreign Bees and Incidence of Disease.

[10514] The article on the above I heartily agree with, and it is high time something was done. For my own part, I have never had what is called a "pure Italian," but have gone in for a guaranteed healthy hybrid, by Messrs. Taylor, and by getting new blood every two years the strain is always the same. I have large, airy hives filled to the brim, and large swarms every time. I quite agree the way bees are so-called looked after by many is asking for trouble. The dearth of honey, I am sure, is caused by these eternal nuclei, skeps, and the like. What is wanted is a stock on 12 frames of combs, in hives, tiered up with three to four supers, that yield 2 cwt. of honey apiece, then we need not import. Healthy bee keeping is shown by those who can keep bees and get large quantities of honey. I am certain there are many successful bee-keepers who would help this way, so that we could work up this industry and make it pay well. I think this article a splendid straight-forward item, and I hope many will take the tip from it. It does great credit to the Editor to put it before us all. Let those come forward who can help, it's well worth it.—CYRIL TREDCROFT.

Bee Mistakes.

[10515] "Jottings," by A. H. Hamshar, in your issue of August 18, tempts me to put my case in the hope of getting explanation.

On June 13 I was given a swarm of hybrids. I was from home, but they were hived all right on six frames of foundation and fed with honey. I did not examine for a queen, but on 18th put in a back frame of comb from my other hive, containing honey. A week later I noticed on this comb a queen cell nearly completed, which was capped and completed in due course. A week or two later I looked in but the queen cell was still intact. I then gave them another frame of comb from the middle of my other hive, containing eggs and brood in various stages, as I had years ago found odd queen cells empty when opened. This they hatched out but prepared no queen cells, the original one still remained unopened, I could find no queen, and the bees behaviour indicated they had no queen.

Out of curiosity, on August 22, I removed completely the cap of the queen cell very carefully and disclosed the head of a bee. I could not say whether or not it was a queen, nor whether dead or alive, but so much as I saw seemed healthy. I at once put the comb in again, and on the following day looked carefully round the front for a dead queen, with no result, and at night found the queen cell empty and reduced in height to a mere crater. I went through the stock then, and have done so yesterday, but can see no queen or brood, and the bees cover about four or five combs.

Presuming it was a queen in the cell, why did she not hatch out?

The walls of the cell seemed thick, probably 3-32 in., but of normal consistency, and the shape and size of the cell were normal, at about a quarter the distance up from the bottom of the frame.

I am very much disappointed as I hoped to get a queen of the same strain as in my other hive, which has done well, and I presume now there is nothing to be done but unite this weak lot with my other stock, which is already so crowded on ten frames that a great mass of them have overflowed behind the division board. — J. H H., Middlesbrough.

A Reader's Suggestion.

[10516] In reply to "F. M. S." (10,510) may I, as the writer of the article to which he refers, explain that if in reporting demonstrations at various places by leading bee-keepers one reported the full substance of the lectures given, the columns of the "Journal" would need to be extended fourfold. Mr. Hemming, no doubt, made uniting the burden of his remarks as the time was drawing near when bee-keepers should be considering whether this was or was not necessary. (No. 4.) Bricks should not be placed on hive roofs. They hold the heat in summer, the cold in winter, and will keep a patch of damp on the roof where they happen to be placed. (No. 7.) This hive had the slides removed, consequently the whole front was open, which gave wasps a great temptation and opportunity. When wasps are about the entrances should be contracted sufficiently to enable the bees to keep them at bay. Roof escapes should—when there is only one in the roof—face the same way as the hive.—OMEGA.

Australian Wild Bees.

[10517] Re letter (10,501) you have printed "Dr. Alnstad" instead of Dr. Abushâdy. Re the Australian bee it was sent *direct* to me from a relative on a sheep farm miles away from any town. Possibly some Italian bees had been sent to Australia, and a swarm had taken possession of some tree. I thought myself it looked like an Italian. —A. PARKER.

[Printers' errors will occur at times even in final corrections. In the Australasian *Bee Manual* Mr. J. Hopkins states that Australia did not originally possess any variety of the true honey bee (*Apis mellifica*). The common or black bee was introduced from England in 1822, and Italians in 1880. The wild bees are from swarms of these that have decamped to the woods, and will explain why the bees our correspondent sent were hybrid Italians.—EDS.]

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

Various Queries.

[9929] I should be very grateful if you would kindly answer me the following through your "Replies and Queries" column :—

(1) It states in the "Guide Book" to stimulate the queen when the honey flow fails, give a quarter pint of syrup each evening. Now does that mean that the bees are to take it down during the night, or to continue the next day? I find that with one hole in feeder is not enough for them to get at it, and it takes the following morning to finish the quarter pint. With two holes they could do it, but will that be too quick for gentle stimulation? Why is it that it has to be given in the evening, because there is no honey being taken in the hive in the night time? This is a question I have never been able to understand, and it always seems to me unnatural.

(2) How am I to wide-space alternate frames for wintering if each comb has a fair amount of honey in it? You would have

to take a frame or two frames of comb away, and that would mean taking the honey and wasting some, as if you extracted it and fed it back to the bees there would be some wasted on the extractor. Also do you wide space the alternate frames, or only the two alternate frames in the middle? Two of my brood chambers hold 11 frames and the other 10. Each of the stocks are strong.

(3) When is the time to reduce the entrance to guard against robbing? The autumn will be early this year, so would the middle of September be about the time to reduce to, say, about 6in ?

(4) If the whole of the nine holes in the bottle feeder are turned on, and as the syrup is rather thick, would the bottle feeder do for rapid feeding? I cannot see otherwise what the nine holes are for if not for rapid feeding.

(5) How many quilts of the usual grey carpet felt (as used in the B.K.A. apiary at Golders Park) are really necessary for wintering covering, and can you have too many on, affecting the gentle exit of the air through the quilts?

I always look forward to your most valuable "Journal" and also the RECORD with the greatest of pleasure, as it always affords a mine of information, especially to me, a beginner.

Hoping that the questions are not too long, and thanking you in anticipation.—J. J. B.

REPLY.—(1) It does not mean the bees are to take all the syrup down during the night. If the syrup is given, and taken down, too rapidly it will be stored in the cells, thus limiting the space available for brood rearing, and defeating the object of stimulative feeding. The syrup is given at night so that the bees are not unduly excited or inclined to start robbing, as might happen if the feeding is done in the daytime at a season when little or no food can be obtained from flowers.

(2) Unless your hives are made to take more than ten frames you will have to remove one or two if you wish to wide-space the combs. This is a practice we never follow. We hear much at times about sticking to Nature, and this is one case in which we like to follow the natural plan as closely as possible, and we have not yet heard that bees in a state of nature wide-space their combs during the winter. Combs may be all spaced, or only three or four in the centre.

(3) Now is the time to reduce entrances. The width will depend on circumstances: three or four inches will be sufficient for most colonies, less for those that are not strong.

(4) If access is given to all nine holes the bottle feeder will become a rapid feeder. The correct term is a graduated feeder. In practice it is better when rapid feeding to use a "rapid" feeder, owing to its greater capacity.

(5) Enough to make a thickness of at least 1½in should be used. More than that will be better. We have never found any ill-effects from having more than that, and do not think it can be overdone, providing oil-cloth or other non-porous material is not used

Questions, &c., for Bee-Keepers for Self-Examination.

569. What can be done to induce bees to fill the cells next to the wood in sections?

570. When it is desired to remove a hive from one position to another in an apiary, how should it be done so as to prevent loss of bees from alteration of location of hive?

571. What is an artificial swarm, and how should one be made?

572. What is the "Doolittle method"?

573. Why is it easier to unite colonies in the early spring than at other times in the year?

574. What food can a queen eat without assistance, and what food must be fed to her by the workers?

575. What can be done to entice a swarm away from an awkward place to an easier place for capture?

576. Explain as to a beginner why it is desirable to "Keep Bees Better."

J. L. B.

Bees Detained by the Police.

Capetown.

The police at Claremont were visited by a man who gave information that a swarm of bees had been stolen from his premises, and asked assistance in discovering the thief and recovering the goods.

Four days later a swarm of bees came and hovered about the Mowbray police station, and the police were ultimately successful in capturing the queen bee. A rude beehive was hastily constructed, and, the queen bee's wings having been clipped, she was placed in it, and the swarm joined her. The bees, however, were dissatisfied with their new home, and soon took flight, *carrying the wingless queen with them.—Daily Express.*

[The Italics are ours.—EDS., B.B.J.].

Bees Attack Invalids.

PRETORIA.

A swarm of bees, which had established itself in one of the chimneys of the main building of the Pretoria Mental Hospital, suddenly, and for no apparent reason, "flew amok," and attacked a number of helpless patients on the main terrace of the hospital.

The female nursing staff went to the rescue of their patients with commendable courage, and eventually succeeded in getting all the patients indoors. Some patients collapsed under the stings, and the nurses also suffered severely.

The swarm was afterwards dislodged and destroyed.—From the *Daily Express.*

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

W. J. W. (London).—*Remedy for wasp sting.*—The poison of a wasp sting is now said to be alkaline. We have found the juice of an onion a good remedy for the stings of both wasps and bees.

Taking off supers.—When doing this the bees must be subdued by the use of the smoker, or a carbolic cloth, but as little as possible of either should be used, or the bees will pierce the cappings over the honey in order to gorge themselves, and if sections are being dealt with they will be spoilt. If an undue amount of smoke is given, or if the carbolic acid solution used to damp the cloth is too strong, the bees will be driven into a panic, and will not give themselves time to search for unsealed stores, but will at once bite through the cappings of the sealed honey.

Appearance of fertile worker.—There is no difference in appearance between a fertile and an ordinary worker.

Clipping queens' wings.—We have given the reasons why we do not care for this practice in the "B.B.J." for August 4, p. 360.

G. G. (Honiton).—*A query on feeding.*—Though the combs may now contain a large amount of brood, this will probably be much reduced in the course of a couple or three weeks, and if you commence to feed rapidly in, say, a fortnight's time in your part of the country, the bees should be able to store and seal enough for winter. If this does not work leave on a super of shallow combs, with worker cells, and if necessary you might put the feeder on the super. The other alternative is to trust to candy through the winter, but we do not advise this if it can possibly be avoided.

R. N. B. (Essex).—*Preparing honey for show.*—You should get "Producing, Preparing, Exhibiting, and Judging Bee Produce," post free for 2s. 3d. from this office. Read the rules on the back of schedule carefully, and you will find your queries answered.

"Ebor" (Dorset).—*Wintering with shallow combs over brood box.*—There will be no harm in this, but unless the shallow combs contain stores we should prefer to put them *under* the brood combs It is better to have the winter stores in their natural position, viz., at the *top* of the combs 2. No.

"Nook" (Wales).—*Wax rendering.*—You cannot get light coloured wax from old combs. The nice coloured wax you see on the show bench is obtained from cappings, or new comb. It should be boiled as little as possible, as boiling will darken it, and also spoil the aroma. In this respect there is nothing to beat a Solar wax extractor, but it is not suitable for old combs.

K. K. K. (Sussex). *Size of frame.*—It will be much better to stick to the standard frame. If you listen to all the cranks who advocate their own pet size of frame you will be completely bewildered. The benefits of standardisation in almost everything, from motor cars to needles, should by now be so well known as to need no "boosting."

C. S. (Wallington).—*Spirit for dissolving naphthol beta.*—So far as we know, the colouring matter now put in methylated spirit is not injurious to bees. Any alcoholic spirit will dissolve N. Beta. The bees were Italians.

R. J. H. (Islay).—The bee you sent was a drone, which had mated with a queen.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d. up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

September 7 and 8.—Glasgow District Bee-keepers' Association, in conjunction with the Glasgow and West of Scotland Horticultural Society, at St. Andrews Halls, Glasgow. Open Classes for Honey.—Schedule from Peter Bebbington, 15, Pitt Street, Glasgow.

Saturday, September 10, at Brentford.—Middlesex Bee-keepers' Association, in conjunction with Brentford Allotments Association's Annual Show, at Wesleyan School Hall, Clifden Road. Five Classes for Honey. Open Classes: One 1-lb jar of 1921 extracted honey, one 1921 section ,one aluminium semi-comb of capped honey. Classes confined to members of the Middlesex Bee-keepers' Association: One 1-lb. jar of 1921 extracted honey, one 1921 section. Prizes: 10s., 5s., 2s. 6d. each class, and bronze medal of the British Bee-keepers' Association for best exhibit. Semi-comb prizes: £1 1s. and 10s. 6d. No entrance fees. Exhibits (excepting semi-combs) become the property of the above-named Associations.—Entries, to be made on a postcard, to R. R. Babbage, 33, Whitestile Road, Brentford, Middlesex. **Entries closed.**

September 14, at the Town Hall, Twickenham.—Twickenham Horticultural Society's Annual Exhibition of Vegetables and Fruit. Honey exhibits under the control of the Twickenham and Thames Valley B.K.A. Open classes for single bottle and section. Silver challenge cup and silver and bronze medals in members' classes. Schedules from Miss M. Byatt, "Hawthorn," Hanworth, Middx.

September 17 to 23.—British Bee-keepers' Association Annual Show at Grocers' Exhibition, Royal Agricultural Hall, Islington, London. Entries close September 5. Schedules from Hon. Sec., B.B.K.A., 23, Bedford Street, Strand, London, W.C.2. Entries closed.

September 21, at Altrincham.—Altrincham Agricultural Society. Largest one-day Show in England. Several Open Classes for Honey, etc. Good prizes.—Schedules from Herbert Turner, 1, Market Street, Altrincham.

September 23 and 24 at Newport, Mon.—The Monmouthshire Bee-keepers' Association, in conjunction with the Newport Allotment Holders' Utility Show. Four classes open to all and four to members of the Association only.—Schedules from Robert Todd, Sudbrook, near Chepstow, Mon.

Saturday, September 24, 1921.—Staffordshire Bee-keepers' Association. The Autumn Exhibition of Honey, etc., will be held in the Technical Buildings, Stafford. Seven Classes for members only. Also for the best exhibit of honey in a metal comb, open to the world. Entrance fee 1s. Prizes, £1, 10s., and 5s.—Schedules from the Secretary, W. Griffiths, Solway House, Silkmore, Stafford. **Entries close September 22.**

October 1, 1921 (Saturday).—Harrow Bee-keepers' Association, in conjunction with Harrow Horticultural Society, at Greenhill, Harrow. Class 42, Open to the United Kingdom, one section of honey, 1921. Prizes: 20s., 10s., 5s. Exhibits become the property of the above Association.—Particulars from J. L. Rogers, 289, Station Road, Harrow. **Entries close September 28.**

Special Prepaid Advertisements.

One Penny per Word.

PRIVATE ADVERTISEMENTS.

FOR SALE, 2½ cwt. Honey Sainfoin and Clover Mixture in 28-lb. tins, tins included, f.o.r., sample 6d., £8 cwt.—ROGERS, Hatherop, Fairford, Glos. t.30

RYMER HONEY PRESS, equal to new. £2 12s. 6d.—PEARMAN, Longford Street, Derby. r.t.31

FREEHOLD.—Three Acres for Sale, main South Coast line, partly planted with fruit trees, excellent for bees, poultry, fruit and vegetables; also some Stocks of Bees. Immediate possession.—CHEESMUR, Forest Apiary, Worth, Crawley, Sussex. t.32

"CULPEPPER'S HERBAL," dated 1826, handsomely bound, 218 illustrations in colours, 2 gs.—LOWE, Lilac Villa, Chilwell. t.33

FOR SALE, eight Hives of Bees, guaranteed healthy, Section Racks, Geared Extractor, etc.; bargain, £30 the lot, or divide. Inspection invited.—HARMER, Sunniside, Swalwell, S.O. t.34

FOR SALE, pure light Lincolnshire Honey, finest quality, £7 cwt.—HERBERT J ROBINSON, Friskney, Lincs. t.35

PRIME LIGHT CAMBRIDGESHIRE HONEY, awarded two first prizes at the Mammoth Show, Cambridge, £8 per cwt.; tins free and carriage paid; sample 6d.—BUNTING, Lacey's Lane, Newmarket. t.36

ITALIAN BEES.—Four 8-frame Stocks, young 1921 Queens, guaranteed healthy and strong, 65s. each net; boxes 5s. each, return optional; immediate despatch.—CHATHAM, Stramongate, Kendal. t.37

4½ CWT. Light Leicestershire Honey, £8 10s. per cwt., 28-lb tins, carriage forward, f.o.r.; tins free; sample 6d., post free.—ERNEST HULL, North Street, Barrow-on-Soar. t.39

DRIVEN BEES with Queen, 9s. per lot, carriage paid; boxes returnable.—POLLYN, Stuntney, Ely, Cambs. t.40

BERKSHIRE HONEY, in 28-lb. tins, 1s. 6d. per lb.; tins and carriage free; smaller quantities if desired.—DR. BELL, Lambourn, Berks. t.41

APIARY FOR SALE, ½ acre, fenced, planted with fruit, large shed, 25 Stocks of Bees, Extractor, Ripener, etc.; three minutes from London Road and Westcliff 'busses; ideal spot for bees; £490.—CRACKNELL, Mount Road, Thundersley, Essex. t.42

HEALTHY HYBRID STOCKS, Penna strain, £4: Nucleus, £1 10s.—WILSON, Quebec House, E. Dereham, Norfolk. t.43

FINE LINCOLNSHIRE HONEY, in 28-lb. tins, £8 per cwt., carriage paid.—J. H. ROPER, Thorpe-on-the-Hill, Lincoln. t.44

FOR SALE, four W.B.C. Hives, Geared Extractor, a number of Section and Shallow Racks, Drawn-out Combs, etc. Owing to removal owner will consider any reasonable offer for the lot. On view at Merstham, Surrey.—Box 38, B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. t.65

THROUGH uniting stocks, six healthy fertile 1921 Hybrid Italian Queens for Sale, 5s. each.—DAVIDSON, Forest Road, Burton-on-Trent. t.45

FINEST Light Lincolnshire Honey, 1921, granulated, best in England, price, 56 lbs., £4 4s.; 28 lbs., £2 4s.; 14 lbs., £1 2s. 6d.; carriage paid; tins free; sample 5d.—CHARLES CUBLEY, Gedney, Holbeach, Lincolnshire.

PURE CAMBRIDGE HONEY, in ½-cwt. tins, 75s. Several good (Taylor's) Hives, recently painted, cheap.—STANLEY, 56, Montague Road, Cambridge. t.53

PURE light Cambridge Honey (guaranteed), 13-lb. tins 18s. 6d., 28-lb. tins 39s. 6d.; sample 4d.—YOUNG, 42, James Street, Cambridge. r.t.54

FINEST SAINFOIN HONEY, excellent flavour, £6 15s. per cwt., carriage paid.—HOGAN, Boxford, Suffolk. r.t.56

PRIZE WHITE CLOVER AND SAINFOIN HONEY, £8 cwt., or 1s. 6d. lb., in 14-28-lb. tins; lb. bottles 24s. dozen; Sections, 24s. dozen; all on rail.—HALFORD, West Wratting, Cambs. r.t.57

HONEY advertised 11th ult. sold. Final extraction, equally light amber colour, clear, and fully matured, 1¼ cwt. only, £8 per cwt.; tins, cases and carriage free; sample 7-oz. bottle, 1s.—RODGERS, Market Deeping, Lincolnshire. t.58

DRIVEN BEES.—Wanted, several healthy lots. State quantity and price per lb.—GWYNN, Coningsby, Malvern. r.t.59

FOR SALE, one 13-frame Stock, one 10-frame Stock, and Hives complete, three June Swarms in skeps, Italian Hybrids; offers.—HOAD, Four Oaks, Beckley, Sussex. r.t.60

WANTED, 10 to 15 stocks of Bees at once.—Quote lowest price to LOUDON, Lambhill, Strathaven. t.5

A COMPLETE APIARY for sale; the property of a lady going abroad; equipped with all modern appliances, W.B.C. hives, and a splendid strain of bees.—Apply, in first instance, GEORGE, 7, Woodside, Oswestry. r.t.12

FREE DIAGNOSIS of bee-disease; September only.—Send samples and stamped envelope for report to DR. SMITH, Pitfourie, Pitlochry. t.28

FOR DISPOSAL.—Three strong stocks of healthy Italian Bees, on ten frames of special make, with extra wide top bars; ample stores for winter; no disease; 60s. each; crate 10s., returnable.—NEEDHAM, Hemel Hempstead. r.t.26

FOR SALE, 4 stocks of Bees in box hives, £3 3s. each, or £12 the lot.—A. TOWNSEND, Blackthorn, Bicester, Oxon. t.29

LAND on which apiary stands being offered for sale, will sell about 30 strong, healthy Stocks English and Hybrid Italians, on 8 combs, at £3 10s. each, carriage paid; travelling boxes charged 10s. unless returned. No disease in apiary.—F. M. FALSHAW, Avondale, Stocton Road, Guildford. r.s.103

A COMPLETE APIARY.—Seven strong, healthy Stocks of Italian Hybrids in seven W.B.C. 10-frame Hives, 24 spare drawn-out Brood Combs, two extra Brood Boxes, 32 Racks with shallow frames, mostly drawn out, 16 new 28-lb. Honey Tins, seven used ditto, eight regulating Feeding Bottles, one Porter Escape, one Geared Extractor, two Uncapping Knives, 200 Metal Ends, 12 Spare Lifts, etc., etc., price £40.—R. O. FORDHAM, Broom Hall, Biggleswade. r.s.105

FOR SALE, four healthy Stocks, good stores, 1921 Queens; also various Appliances.—Shortheath Beacon, Farnham, Surrey. r.s.113

FINEST first grade Clover Honey; sample 6d.; strong Stocks on honey combs.—NORTH, Cressing, Braintree, Essex. r.s.99

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INCOMPARABLE Cream Bee Candy, aids successful wintering, 6 lbs., 7s. 6d.; 10 lbs., 11s. 6d. —BOWEN. t.49

EVERY QUEEN should be introduced in Bowen's "Safety" Cage; absolutely certain; 3s. each.—BOWEN, Queen Specialist, Cheltenham. t.50

NUCLEI, 22s. 6d.; driven lots, 10s., with Queen. WOODS, Normandy, near Guildford. t.51

IT'S IN THE CANDY.—Flavine—S. Bee Candy, made in Cambridge and the wrappers bear our name, price 10s. per 6-lb. parcel, postage paid. During September and October we will send free with every order an "Acarine, 1921, Eclipse Pad," or a copy of our booklet "Let the Bees Tell You."—S. H. SMITH, 30, Maid's Causeway, Cambridge. t.52

QUEENS, 7s. 6d., six for 42s.; Colonies, 85s., 65s.; plus carriage; prompt; pure Italians.—ATKINSON, Fakenham. r.t.61

YOU wouldn't "swop" a Masheath for any two other hives. r.t.62

MASHEATH (REGD.) HIVE, the hive of the day. Direct only from the originator and maker. Price List.—ATKINSON, Fakenham r.t.63

QUEENS.—PRYOR, Breachwood Green. Welwyn. r.t.13

CHAMPION CROCUS BULBS.—Plant now; invaluable for early pollen; yellow, 5s. 9d., 6s. 9d., 7s. 9d. per 100; mixed, 4s. 9d.; post free.—Litman, Castle Cary. r.t.25

QUEENS, QUEENS.—Guaranteed genuine Penna Italians, bred and mated in Italy. I can supply these excellent Queens by return; gentle, prolific, and with a world-wide reputation, 8s. 6d. each; selected, 10s. 6d.—GOODARE, New Cross, Wednesfield.

A BEE-KEEPER'S BARGAIN.—Boxes for making hives. Five boxes sufficient for two hives. Can also be easily converted into such useful articles as section and honey crates, corn bins, apple racks, seed potato trays, hen coops, brooders, tool chests, etc. Corners all dovetailed and strengthened with brass twisted nails, all ⅝ boards, tongued, grooved joints, and thoroughly seasoned. Size, inside measurements, 20½ in. long 17 in. wide, 12 in. deep; put on rail for 1s. 6d each, £6 10s. per 100. I have also 500 same length and width as above, but only 9 in. deep, in new condition. Sides and ends of one-piece boards same price. All boxes complete with lids.—J. MITCHELL, "Elderslie," Branksome Avenue, Stanford-le-Hope, Essex. r.t.55

WHITE WYANDOTTES.—March hatched pedigree Pullets, 12s. 6d. each, 15s. 6d. selected; good laying strain; Cockerels, 12s. 6d. and 15s. 6d.; delivered now; two smart 1920 Cockerels, 15s. 6d. each; pen six 1920 Pullets and 1921 Cockerel, £3 12s. 6d.—COATES, Broad Heath, Presteigne. t.46

JUST RECEIVED last batch of finest Alpine Carniolan Queens, 17s. 6d. each; immediate delivery; limited number.—ADMINSON, LTD., Benson, Oxon.

EXCHANGE surplus Stocks for Run Honey or Sections.—LEE, the Beeman, Burgess Hill, Sussex. r.s.123

HEALTHY DRIVEN BEES, 3 to 4 lbs., with young queen, 10s. each, cash with order; crates returnable.—G. A. GILLETT, New Road, Moreton-in-Marsh, Glos. t.2

HEALTHY DRIVEN BEES, with Queen, 9s. per lot, carriage paid; boxes returnable; cash with order; orders in rotation.—PULLEN, Ramsbury, Hungerford. t.t.23

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

"THE APIS CLUB."—If you have a live interest in bee culture as a science and a craft, you should join THE APIS CLUB. Membership fee, 10s. 6d. per annum, and includes the free delivery of "THE BEE WORLD" as published.—For advantages of membership write to the Secretary, THE APIS CLUB, Benson, Oxon. r.o.37

FINEST ENGLISH HONEY, in 28-lb. cans, 1s. 6d. per lb.; cans and carriage free.—PEARSON & GALE, Marlborough. r.14

ITALIAN QUEENS, young, fertile, purely mated, disease free; safe arrival guaranteed; 8s. each Queen; special offer, four Queens £1 8s. —GAETANO PIANA, Castel San Pietro, Emilia, Italy. r.l.83

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EXCEPTIONAL OFFER.—*Adminson's Breeder Hive*, fitted with ten standard aluminium semi-combs, costs £4 2s., carriage forward. Worth double this price.—For Adminson's Hives and Appliances write to JAMES LEE & SON, LTD., Uxbridge. r.n.23

FOR ALL BEE-FEEDING PURPOSES
there is nothing better than
"MELTA" HONEY,
the pure West Indian variety, the Honey with a reputation and a guarantee, two 56-lb. tins, 75s.; one 56-lb. tin, 43s. 6d.; four 7-lb. tins, 26s. 6d. Carriage paid for 100 miles.

Rev. C. R. B. Dakeyne, Marske, Yorks, says:—*"Your MELTA Honey is excellent for 'bee feeding.'"*

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Fertile Italian Queens. 8/6. Delivery by return. PEARSON & GALE, Marlborough.

British Bee-Keepers' Association Conversazione.

May we remind our readers that the above will be held at the Central Hall on Thursday next, to commence at 2 p.m. Mr. Arnold Richards will speak on "The best way to spread a knowledge of bee-keeping," to be followed by a discussion. At 4 p.m. a tea will be provided for members and friends. A collection to defray expenses will be taken at the table.

At 5 p.m. objects of interest will be exhibited and described. It is hoped that members and manufacturers of appliances will send or bring as many of these as possible. An object of interest, however, is not necessarily an appliance.

The conversazione and tea are not limited to members of the B.B.K.A., but are open to all bee-keepers, and it is hoped as many as possible will attend. As the meeting is held during the week of the annual show at the Grocers' Exhibition the council are anticipating a good attendance.

We are pleased to hear that there are a large number of entries—upwards of 200—for the show, and there will, therefore, be a good display, even though the number of jars and sections in each class is 6 instead of the usual dozen.

During the week the room at our offices will be available for any bee-keepers wishing to meet and talk over old times, or any other matters. We shall be pleased if they will in fact look upon it as a club room to which all are welcome. It was suggested to us that arrangements might be made for such a room at the Agricultural Hall, but so many meetings are being arranged there it was not possible to do so. Trams from the Embankment (which at Charing Cross is only five minutes' walk from our office) pass the entrance to the Agricultural Hall every few minutes.

A Dorset Yarn.

The honey industry is coming into its own again. At Wimborne Show last year the honey classes only took up about 10-ft. run of staging; this year it was increased by many 10ft. tables—thirty exhibits of run honey alone, with a large entry of sections and shallow combs. The displays were very pleasing. One from the Blandford area had all light exhibits. Bottles, whatever their size and shape, had all light honey, the combs and sections all capped light, the wood cases for combs were light, and the wax light. From the Wimborne area there was more variety; run honey had many variations, and shallow combs and standards showed a deeper-coloured honey beneath the cappings.

The New Forest Agricultural Show had quite a good entry of honey, all displays differing. Some had candied honey as well as newly extracted. The light-coloured had first prize; it came from the Test Valley, the winner remarking that his apiary was in a wood surrounded by farmers' fields. He brought his exhibits on a motor-cycle; this spoilt his sections, but not his jars of extracted honey.

Beaminster, in West Dorset, had also a good exhibit of bee produce. Here, again, the light-coloured honey came first. The other classes of sections had many entries, but the 1st prize went to Mrs. Pond, of Blandford. These same sections have won 1st in many shows this season; the same sections were at Dorchester Agricultural Show, and again 1st. These were taken off in time for the Royal Counties Show at Bournemouth, where the whole of one side of a 4-pole tent was given up to honey exhibits. Some combs exhibited in painted tin cases looked very pleasing and light; these were from a Dorset rectory, the same exhibitor also taking several 1st prizes.

We have taken off all section racks that had been filled, and the uncapped ones given back. Most of them have one rack on the brood chamber; others have the combs that were extracted on top of brood box. Some of them have a fair lot of stores added in the centre combs. The brood chamber is full of honey with very little brood in the combs. We have two driven lots from a neighbour's apiary to which we gave a comb or two of stores and other extracted combs; these are working up a lot of young bees.

What has struck me this season is the many pollen-laden combs there are. We have seen so much of this when showing combs at the local demonstrations. The dry summer has given such a lot of pollen in a perfect condition for harvesting, but it does not give much room for honey. Where we gave the queen a rack of shallow combs beneath to extend the brood area most of the standard combs in the original brood box are filled with honey. A great deal of these pollen-clogged combs are cleaned out, the greater part are not yet capped over.

Bees are on raspberries, mignonette, asters and golden rod. Have walked over large fields, but very few bees are seen; they are on the heather this last week of warm weather. Many fly off in a desperate manner from the hives, and when one walks off to the moorland they are very much in evidence, though not anything like the numbers of last year, but when bees fly off straight from the hives one is assured that they are working some food plants very regularly. Visitors from Lancashire, Somerset and Sussex on holiday by the sea came this last week to see the bees. Away from their own bees they came to see ours.—J. J. Kettle.

Jottings from Huntingdonshire

The ivy blooms, but the drought holds—what will the bees do if showers fall? They will go forth to the woodlands and extract every ounce of nectar where the ivies grow. And e'en now honey is being stored from this our last source. A rack of sections which I extracted I gave back to the bees to clear up. This they did in their accustomed cleanly way. The hive being crowded with bees, I thought it wise to leave the rack for a week or two to give room. To-day I looked in and found a section partly filled. This is proof positive that bees do store honey from ivy, although many will aver that this plant yields little more than pollen of use to the insects of the hive. Rain will give the bees a late harvest, and may possibly compensate for the loss of pabulum during August. I said last week the prospect of an autumn honey flow had vanished. This statement I am inclined to modify by saying that a day's continuous rain followed by a St. Luke's summer, would bring forth many flowers which would enable the bees to add to their winter store.

May I offer advice to the manufacturers of bee appliances. A few times recently my attention has been called to the inferior articles sent out when small orders are placed. It is wise that all beginners should commence in a small way, and in consequence their orders for bee appliances will likewise be modest; but this should not be a reason for executing their orders by clearing off old stock. Some standard (?) frames I have seen are not only of incorrect measurements, too long or too deep, or both, but are made of such rough, unsightly wood that it passes my comprehension how the makers expect repeat orders. Another person ordered, among other things, a few glazed section cases. Not only were these sent, no two of the same colour, but had evidently been in stock so long that they bore a shabby faded appearance. Surely some of these "small" customers will be apiarists as time goes on, and it is unlikely that they will forget these incidents. I am fully aware that during the war manufacturers were hard put to in obtaining labour and raw material, and had to do their best with inferior goods. One excused them then, but now I should strongly advise the selling off all war-time made materials at a great reduction, even at a loss, rather than the disappointing of customers. Some foundation shown to me a few days back—a sample of some bought two months ago—might have been made in Virgil's time; it was as brittle as eggshells, and as dry as the proverbial bone. I've no wish to enlarge on this subject. I have brought the matter forward in the interests of bee-keepers and those who undertake to supply all a bee-keeper requires. Whether this war-time material is the result of "contracting out" I am not able to say. What I do know is that during the dark days of the war I personally was most generously treated by the firms I dealt with, which, out of gratitude to those makers, I am half tempted to name.

For the first time I think I find myself disagreeing with the Editors. An answer was given last week: "There is no difference in appearance between a fertile worker and an ordinary worker." This is not always correct. There are very few hives where fertile workers are not raised, although they are not often given permission to deposit eggs. These pests can be detected by a keen eye, but are very difficult to catch, being much more shy than a young queen. They possess a curved abdomen, which is more pointed than that of an ordinary worker, and generally have markings similar to a queen. Why these are called "fertile" I cannot comprehend. A queen in the same condition is infertile, and since the drones from these fertile workers are no fertility; better call them "laying workers," which is not quite correct, for such a bee ceases to be a worker when allowed to commence ovipositing. How would foster-mother bee do?—E. F. HEMMING, Steeple Gidding.

[We have had at different times "fertile" or "laying" workers that had been caught in the act of laying, and *they* were no different in appearance from ordinary workers.—EDS.]

A Trip to the Trent Valley and Back.

By TOM SLEIGHT.

(*Continued from page* 417.)

I leave the Lincoln road at Darlton, and take a very unfrequented country lane, where farms are in oddments, the land red clay, the hedges grown high with dog-roses that are in full bloom. Nature seems to run wild hereabouts; the fields nearly all grass with scarcely a clover nob to be seen. To look at it, for about three miles, it would (about) keep a bee to the acre. Normanton-on-Trent is the next village of note. Here you leave the clay for the Trent sand, and it is a regular market garden village. Apples and plum trees at every house. There seems a fair crop of apples, but the plums are "off." Outside the farm crops look a treat, particularly beans and peas, and rye six feet high. Half a mile farther on is Grassthorpe, where I intend staying the night, as it is gone 9 p.m. It is another little village where plenty of apples grow, chiefly Bramleys Seedling.

June 18.—A bright morning, and feeling somewhat stiff with my previous day's ride. I set off again. Bees are a rarity hereabouts. In five villages just here not a bee left. I peep over into a garden, raspberry canes red over; black currants seem to thrive here. I just skirt Normanton and Marnham. Here are some very heavy crops of red clover. At Ragnal I see the best bed of Tripoli onions I have seen anywhere. Making my way into Dunham (where they let me over the bridge over the Trent for a penny) I cross the Trent to Newton. Here beans look a treat, and barley, too. Leaving a road to the left where it said, "11 miles to Lincoln," I take the Newark road. If charlock is a farmer's pest

around Ashover the red poppy is more so here, for miles along there the cornfields are a red mass. The land seems very light sand, while here and there by some freak of nature red clay pops up, and goes two or three hundred yards, and then disappears as suddenly. Passing North and South Clifton I pass a man here that is doing fairly well with his bees. From five hives he had got thirteen, and sold one, and taken 50 lbs. of honey from a May swarm, but it looked a good place for bees there, clover and blackberries everywhere. Two miles farther on lies Spalford, and I could see bees there would die in summer, for it was all sand and rabbits. It is sand that blows a lot, for I saw two fields of carrots where it had blown them up by the roots at one end of the field and buried them a foot deep at the other. [Mr. Sleight should be there, and just outside Besthorpe on a windy day when the weather is dry. Clouds of sand can be seen from miles away, and we have seen drifts of it several feet deep on the roads.—EDS.] They grow a lot of carrots about there, where the wind had not got them they looked very well. The road along here floods when the Trent is over-full, and the fields, too. A man told me barley stood up to the neck in water for a week in August, 1912, and then he threshed seven quarters to the acre of it. For two or three miles I have not seen white clover by the wayside, but as I get into Besthorpe the roadside is a white mass for miles again. Here, and to Collingham, clover seeds are dead in the fields, only want cutting and leading, for they seem to be standing up dead. The sand land this hot day seemed to fairly burn my feet, for it was over 80 deg. in the shade while I was about here. I spent about two hours in a clover field. I found it was cooler than riding. Here are dog-roses galore, nothing else for yards but the bloom of them on the hedges. Corn crops around Collingham seem to be wanting rain as bad or worse than it did on the forest sand. At Besthorpe I saw one small lot of bees and a few empty hives. I heard there was one man with about twenty hives at Collingham. An old roadman told me quite a lot kept bees years ago, but they had about all gone now. So I leave Collingham to make my way past Langford, where I saw two or three pea-pickers pulling early peas for the market. At Langford I leave the Newark road and make for Holme, for about a mile it is all meadows for mowing; the hay crops seemed fair. At Holme Ferry, where I cross the Trent again, I put my bike in a boat, and a cool breeze from the north as we cross over, brings a remark from the old boatman: "Ah, a north wind's no good to nobody in summer time; it never brings much wet." No, but it suits bee-keepers; they do well with it Well, the old Trent did seem low, as it did not seem far across. I crossed it thirty-seven years ago, when it was top bank full; it seemed quite a long ride then. I should say it is about as low now as it was in 1887. I walked across it then, as did two or three more of us, clinging to the old "milking boat" in Sutton Holme, and a pretty object I looked for tar when I came out on the other side, as the boat bottom had been freshly tarred, and the strong current carried me under it in a place or two. The other two, who knew the trick, walked on the low side. I cannot remember that it ever rained at all that summer till after all the corn was got.

(*To be continued.*)

Notes from Lichfield.

"I.O.W." OR "ACARINE"?

In the season of 1919, when fixing down stocks for winter, I was convinced that my lot were free from disease—perhaps they were—and when a gentleman came along who was anxious to start bee-keeping and wished to buy a stock, I felt justified in obliging him with one, at the same time I gave him to understand how things had been going with me, and offered to obtain a stock for him from a friend, who assured me his were quite healthy, but he preferred to take one of my lots, so his gardener came and took them away, and I fixed them up at their new home early in 1920, about 1½ miles from here.

The spring found them going strong, and long before mine were ready he supered his, after making an artificial swarm, the queen of which mated successfully.

Matters went along fine, and by the second week in June he had taken over 40 lbs. of surplus from his original stock. Then the weather played them tricks, and to pass the time away they swarmed, and when I arrived on the scene the owner offered me the swarm to compensate me for the various visits I had paid. This I gladly accepted, and having hived them among mine they set to work as only a swarm will, then again, as swarms so frequently do, they began to crawl. At the same time the original stock and two others established near to, and made from it, have remained quite healthy, until I fixed them down for wintering when they appeared quite all right.

About the same time as the gardener took the stock away in early spring I moved a stock about a mile away, the other side of the city, to a fruit-growing district, hoping to get some show honey, as the soil is heavy, needless to say I got none, but when well crowded I divided them successfully, and in this case again not the slightest sign of disease appeared all the season.

Yet the stocks remaining here went from bad to worse. I had to feed all stocks nearly through the whole season to keep them from starvation, and re-queening with imported Italians failed to remedy matters, either when installed with an established stock or with a nucleus, but two English-bred Golden Italians from Messrs Allbon have done exceedingly well, and I hope to make good, to some extent, with these in 1921.

So we find the stocks moved to new sites, only short distances, have kept free of disease in each case, while the "friends they left behind them" have in many cases "gone West."—E. JACQUES, December, 1920.

A Visit to the Apis Club.

Will you allow me to inform readers of the "British Bee Journal" that they can spend a restful and inexpensive week-end by paying a visit to Benson, near Wallingford? They will find there a large apiary in connection with the Apis Club, comprising three sections, namely, one devoted to experimental work, another reserved for the training of pupils, and the third containing colonies for breeding purposes and for honey production. There is also an experimental garden for bee flora, which is naturally seen at its best in spring and early summer, and numerous interesting exhibits can be inspected in the office of the Apis Club.

The visitor has a unique opportunity to decide upon the good and bad points of various hives, for amongst those in use are Lee's "Uxbridge" W.B.C. and "Highbury" hives, Baldwin's "Harvester" hive, the Claustral hive, Adminson's "Breeder" hive, Taylor's "20th Century" hive, Whyte's "Cumbernauld" hive, the Langstroth hive, the Insulator hive, the Hygienic hive, Simmins' "Conqueror" hive, and several hives which are popular in America, and are now being tried in various parts of this country.

Curiously enough, there is not in use a Cowan hive, which I have found very successful for wintering purposes, and it is to be hoped that one of these will be procured in due course, for the good points of this hive, illustrations of which are shown on pages 41 and 42 of Mr. Cowan's guide book, are not so well known as they ought to be.

The frames in general use are, as might be expected, the "Standard"; but the Langstroth, the so-called "Deep Standard," and frames of other sizes are freely tested. Those who are doubtful as to the value of metal combs will be interested to see such combs in use with success, and containing ample sealed and unsealed brood, eggs, and stores.

Advice is given to visitors as to the best means of using these combs, and a point to which special attention is drawn is the fact that, when using new metal combs, the bees should be crowded on to a fewer number than is usual when wax combs are used. For instance, a strong swarm which could be hived upon eight standard size wax combs should be crowded on to only five standard size metal combs. A special division board, much broader than the usual one, should be used on each side of the metal combs, thus reducing the size of the brood chamber, and an excellent one which I inspected is made by Ainslie Brothers, of Hanwell.

Another point of importance to which attention is drawn is that the metal comb can first of all be used in the super, then when the honey has been extracted they are in perfect condition for the brood chamber, and will be taken to readily by the queen.

The Great Western Railway Company runs a combined rail and river tour from Paddington to Wallingford, the return fare being 10s. 3d., which enables the passenger to go to Reading by rail, and then to finish the journey by river from Caversham Lock, which is only 10 or 15 minutes' walk from the railway station. As a matter of fact, the ticket takes the passenger only to Wallingford, so that a sum of fourpence must be paid for the further journey to Benson Lock.

The Apis Club is on the other side of the river, and a ferry boat takes passengers across, then the village of Benson is about ten minutes' walk distant, where there are several good hotels, inns, and boarding houses. The apiary is about ten minutes' walk further on, there being a short cut by means of a gravel path across some ploughed fields.

In conclusion, let me add that I spent such a pleasant week-end at Benson that I returned shortly afterwards for a second visit, and I can assure any of your readers who decide to inspect the apiary in connection with the Apis Club that they will carry away with them many pleasant recollections, and will obtain hints which will provide food for thought during the winter months. As for the scenery during the trip up the Thames from Reading to Benson, it has to be seen to be adequately appreciated, and I must leave to abler pens than mine the pleasant task of describing its fascinating beauties.—J. B. Lamb, August 27, 1921.

North Cheshire Notes.

Evidently we who live in this part of England, are more favoured this season than our brethren in the South. Although from March until the end of July the rainfall was very small, still, we had a few refreshers in the way of showers during May, and the first fortnight of August provided enough rain to soak into the ground to the depth of a foot; the result of which is we have a second crop of white clover now in blossom. After a warm night this yields freely and bees are very busy. A Dutch swarm I had, which barely covered three standard combs in mid-June, have built up to a fine stock, and about ten days since I found that eight combs were packed with brood, some of it drone; the bees evidently thinking that spring had come again, as in mid-July the queen had ceased laying. At the beginning of this week they were working in super from the white clover, as freely as at any time during the season. Bees in this neighbourhood should go into winter quarters in excellent trim.

One would like Mr. Ellis (page 382) to explain himself a little more fully. What exactly does he mean by "One colony (Italian) and its subsidiary (Punic)"? Two-hundred and forty sections from one colony must be something of a record. Gretna Green is (at times) famous for honey, as well as matrimonial ventures. I had wished I lived in Dorset, but now I am inclined to go North. It's not so far a move, anyhow.

I was interested in Mr. Hancox's "British Bees" record. It may interest him to know that about the year 1900 I had a swarm of British bees, hived on nine standard frames, on June 7, which gave me three racks of sections and 13 lbs. of extracted honey by the beginning of August; 42 sections, which were completed in a fortnight from hiving, were

the most perfectly finished I ever had, and were pure sainfoin honey. I remember taking first prize with them at a local show. This was in the same county as Mr. Hancox, and not far from the blanket town.

Query.—Would Mr. Kettle or any other reader inform me where I can get autumn fruiting raspberry-canes. The nursery lists I have by me do not give them.—D. J. Hemming, Appleton, Cheshire, August 26, 1921.

The July Staffordshire Conference.

The Conference, which was exceptionally well attended, was primarily occupied with a detailed discussion on the evolution, use and abuse of metal combs, which were being officially tested at Stafford. A very favourable decision was arrived at, as already reported in the Journal.

We were unable to obtain the block in time for insertion with the report.

Where Ignorance is Bliss.

I gave my charwoman a section of honey which she took home and showed to a little boy, asking him if he liked honey. After looking at it for a long time, he said, "I don't know, but I like honions."—Egerton Allcock.

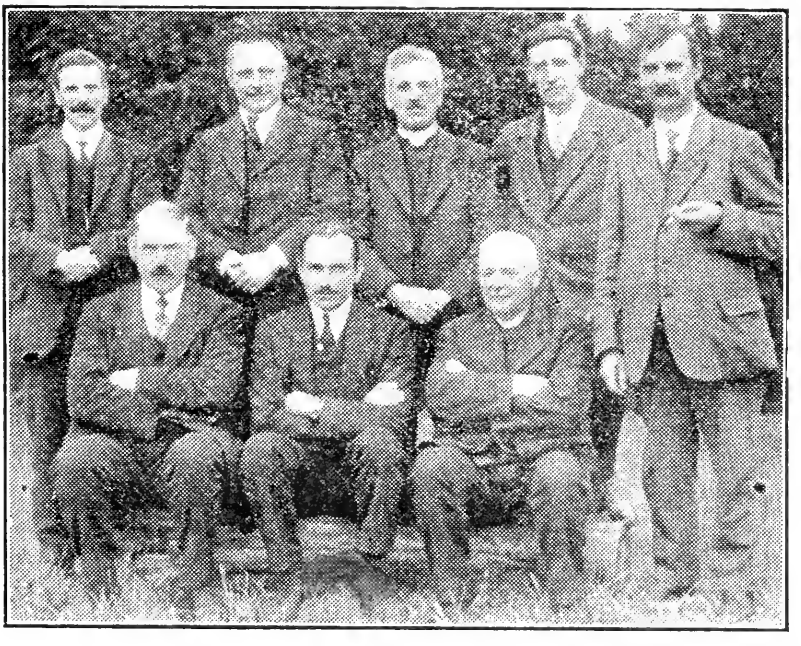
Foreign Bees and the Incidence of Disease.

In its outlook and conclusions, the article published in the Journal, of June 23, is surely the most lugubrious ever published on such a subject.

It is obviously so narrow in perception of outstanding facts as to be entirely unconvincing to bee-keepers of experience who know a better story than that.

Its endorsement by Mr. Tredcroft is a great surprise to me, and it may be well to examine the thing closely and put the other side of the question into the limelight for the benefit of a very large number of recruits to our ranks who are keen to know the in's and out's of debatable subjects such as this for their own guidance.

To begin with, were the claims of the native black bee so great, no such pitiful appeal on its behalf would be needed. Sound merit never requires the sobs of regretful patrons to secure its rightful place. The spectacle of boosting a particular race because of certain merits, and others to which it has little or no claim, together with the omission of qualities lacking, in emphasising denunciation of another first-class and most meritorious race, excelling in first rank characteristics in which the former lamentably fails, is not cricket.



[By courtesy of the *Staffordshire Advertiser.*

Group of Officials of the *Staffordshire B.K.A.*, with the Editor of the *Bee World* seated in the centre.

[Left to right, back row: A. Cheshire, G. Griffiths, Rev. W. H. Richardson, J. B. Leighton and W. Griffiths, the Secretary. Front row, left to right: J. Price (C.C. Expert), A. Z. Abushady, and W. J. Walton, Secretary, *South Staffordshire B.K.A.*]

The supporters of such tactics see nothing of value in the grossly maligned race; would oust it, lock, stock, and barrel, and plunge British bee-keeping once more into fits; if they could.

However, the day is already here which makes that impossible. They would keep only the bees their fathers did, and their fathers before them. It is a miracle they use bar-framed hives, but in this we see they progress by the kick of circumstances, though they know it not as progression at all. The day will come when they or their successors will possess a better perspective, accepting that which needs no praise, though deserving much.

Because, what is good enough for United States, Canada, S. America, Australia, N. Zealand, Japan, and everywhere else abroad that matters, should be good enough for England, is a crudity in argument, and in itself no justification for adoption.

What is important, however, is that all these countries have black bees of the usual character, as well as Italians; yet the Italian bee has captured the affections of all to whom bee-keeping matters. So that those of us who respect the merits of Italian bees are in good company. Overseas bee-keepers, in the majority, not merely ignore the black, they denounce it.

On the question of disease resistance to both Isle of Wight disease and foul brood, the Italian leaves the black nowhere. The present greatly improving condition of bee-keeping is almost wholly due to the Italian race, as where they are kept pure, Isle of Wight disease is a vanishing commodity. No such claim by a responsible bee-keeper has ever been put forward on behalf of the native black. That alone is conclusive enough to ordinary folk.

The denunciation of alien bees is peculiarly ingenious, and wholly misleading. To believe it, we must now look out for the inception of another calamitous visitation of Isle of Wight disease soon, which, judging by the unprecedented acquisition of Italian bees the past few seasons, will ultimately sweep up completely the remnants of that wonderful British black which have not yet been exterminated, and carry with it all the Italians, hybrids, and the tribes which arise from the medley of cross-breeding, in-breeding, and out-breeding, whatever that may mean. Then we shall all be without bees. We may have to find another name for the scourge, as it is not impossible it may break out in the Orkneys this time, and I would suggest we call it the "Orkney Corker" then, instead of blackguarding the Isle of Wight any longer.

Again, will anyone who has real experience of blacks versus Italians in foul brood infection, tell up which is the resistant bee of the two, and also the cleaner? I fancy the black nowhere.

[We have seen Italian bees whose brood was as absolutely rotten with foul brood as any others.—EDS.]

Bee-keepers need not fear the logic of the Scotsman's contributor. There is ample material in it to enable any efficient bee-master to cut almost the whole of it into shreds.

There is no occasion here to denounce the black, nor need there be. Its cultivation has merit, but not all of it is centred in the bee itself. There are other factors in the situation, and it can prove suitable without proving the Italian unsuitable, and that on the same ground, too.

The central pivot is suitability for the conditions of British apiculture, an extremely wide reference in which both black and yellow can put forward sound claims to recognition. At this date it is surely idle to deny that. But when disease has to be faced, see that the Italians are on your side.

The article is so full of debatable matter, that to cover all the assertions would involve more space than the editor can have at disposal. Nevertheless, it thoroughly deserves dissection and opportunity for some further notes may occur during the coming winter, and I am hopeful they may find space at the editor's disposal.

There is one proposition with which I fully agree: systematic cultivation of pure British blacks as an activity of the Government. But is there any money in the till? In no other way could anything of value be accomplished.

Until a State-aided production is put before us, the Italian will maintain and still further increase its hold upon the affections of bee-keepers, with the not improbable final result that the best British black scientific cultivation will ever produce, will not only never disturb a fine Italian, but that, as elsewhere, the latter will hold the fort for good, or until they are all killed off by that infamous "Orkney Corker" to be, the identical scourge it is alleged the alien bees previously originated in the Isle of Wight. By all the laws of logic the powerful force of Italians here now should repeat that in four-fold intensity.

By importing and broadcasting thousands of Italian queens, we can then indict the British Government as the villain next time Now we know. But tell Mr. W. Herrod-Hempsall that.—M. ATKINSON, Fakenham, September 9, 1921.

Worcestershire Bee-Keepers' Association.

The annual show of the Association was held at Madresfield on Thursday, August 4, in conjunction with the Agricultural Show. The quality of the honey exhibited was very good indeed, and the entries were considerably in excess of previous years. Class 4, for 1-lb. bottle of honey (prize 21s.), drew entries from Northumberland, Devon, Norfolk, and other counties, but the Worcestershire honey ranked first, which says much for our own county in honey production. The judge (appointed by the British Bee-keepers' Association) was Mr. J. Price, bee expert to the Staffordshire County Council, and a former member of the W.B.K.A. Mr. G. Richings gave demonstrations in the bee tent during the afternoon to interested audiences.

Appended is the prize list :—

OPEN CLASSES.

Display of honey, wax, etc.—S. Leedham, Bromsgrove, 1; G. Richings, Worcester, 2. Three entries.

Six 1-lb. sections.—A. C. Shinn, Guarlford, 1; H. W. Edwards, Coleshill, 2; G. Richings, 3. Six entries.

Six 1-lb. bottles extracted honey.—A. C. Shinn, 1; Mrs. Essell, Worcester, 2; Mrs. Painter, Malvern, 3. Ten entries.

One 1-lb. bottle honey (gift class, no entry fee, prize 21s.).—Miss M. Vaughan, Worcester. Eighteen entries.

MEMBERS' CLASSES.

Six 1-lb. sections.—A. C. Shinn, 1; A. Ashthorpe, Hanley Castle, 2; H. W. Taylor, Earls Croome, 3. Seven entries.

Six 1-lb. bottles.—Mrs. Painter, 1; A. C. Shinn, 2; Miss Vaughan, 3. Thirteen entries.

Six 1-lb. bottles granulated honey. — Miss Johnson, Ripple, 2; no other prize awarded. Three entries.

Shallow comb for extracting.—S. Leedham, 1; H. W. Taylor, 2; A. R. Moreton, Hallow, 3. Ten entries.

Beeswax, 1 lb.—A. C. Shinn, 1; Miss Johnson, 2. Six entries.

NOVICE CLASSES.

Six 1-lb. sections.—A. C. Shinn, 1; Miss Vaughan, 2. Four entries.

Six 1-lb. bottles.—A. W. Austin, Astwood Bank, 1; Miss Vaughan, 2. Five entries.

Beeswax, ½lb.—A. C. Shinn, 1; Rev. N. Burgess, Knighton-on-Teme, 2. Three entries.

The Haynes Challenge Cup awarded to the exhibitor gaining the highest number of points was won by Mr. A. C. Shinn, Guarlford, Malvern.—*Communicated.*

Street Bee-Keepers' Association.

A very well attended and successful annual meeting of the above Society was held at Portway House, Street, on Monday, August 15, under the genial chairmanship of Lieut.-Colonel Jolly, of Clifton.

A demonstration was given showing how honey was taken away from the hives. Two of the combs were placed in an extractor and whirled round, the honey flying out by centrifugal force. The combs were then ready to return empty to the hive to be refilled; the honey was run into bottles from a tap at the lower part of the extractor.

ANNUAL REPORT.

Mr. E. I. Walker, hon. secretary, stated the number of stocks of bees in the district was 103, compared with 90 last year. The increase was not great owing to a number of stocks having died out after the cold summer of 1920. The surplus honey taken last year was 300 lbs. This year about 1,400 lbs. of honey is being harvested within five miles of Street. Extracted honey is selling retail at 2s. per lb. compared with 2s. 6d. last year. Sections are scarce and sell from 2s. to 3s. each.

The honey season has been about average. May was again the best month for honey, a fair amount being gathered from the fruit blossom. June was so dry the flowers only secreted a small quantity of nectar, but the weather was so fine the bees foraged all day, going long distances gathering a little surplus each day; more bees went out foraging and fewer stayed at home than we ever knew. July was still dryer, the nectar continued to gradually decrease, and by July 14 the bees found it impossible to get enough to eat when out all day, and no further surplus was stored. The best yield from one hive is 113 lbs. of honey.

The "Isle of Wight" Disease.—So far as we know, most bees affected with the disease died out last winter, the rest were destroyed in the early spring, and a complete clearance made. There is no trace of any disease in the neighbourhood. We have struggled with this disease for eight years. Up till last winter there were four stocks of English bees in different places; these died out, and now not a single descendant of the bees we had in 1913 is left. Several of our members have again imported queens from Italy, and some have been obtained through the Ministry of Agriculture. The Italian bees we have now appear to be able to almost completely resist the disease. We are thankful to be able to report the passing of this the greatest and most deadly disease ever known in this country. Stray swarms have been plentiful, 21 having been observed flying about in the neighbourhood of Street, some of them were secured and from one of these 71 lbs. of surplus honey was taken by the fortunate owner. On the other hand, some members are the losers by their swarms flying away.

The Honey Flow.—A record has been kept for the past 12 years showing how much honey is gathered each day by one stock of bees throughout the season. This was shown in diagram form at the Bath Honey Show and created much interest. The best day's work this year was 8 lbs. The best record was a day in June, 1917, when one stock gathered the enormous quantity of 20 lbs. of honey in 12 hours.

A lecture was given by Mr. Bigg-Wither, of Wells, on Tarsonemus woodi. Some splendid photographs of the mite were shown in various stages of development.

An interesting discussion followed and a large number of questions were asked and answered.

Mr. Jas. Morland proposed and Captain Bolland, of Shipham, seconded a vote of thanks to the lecturer. Other votes of thanks concluded a most enjoyable meeting.—E. I. W.

Questions, &c., for Bee-Keepers for Self-Examination.

(Students are recommended to write their answers, and check them afterwards by reference to books.)

577. What gives rise to "robbing"?

578. State the characteristics of the Dutch bee.

579. What is naphthol beta? How is it prepared for use, what is it used for, and how is it used in an apiary?

580. In selecting a locality for an outapiary, what points should be kept in mind?

581. Compare the wintering down of bees as recommended in the text books with letting

the bees "take their luck," stating fully what may be expected to happen in each case.

582. Suggest a method of clearing bees from a rack of filled sections without using a super-clearer.

583. What exactly should be done when foul brood is found in a hive?

584. What may cause the odour of one hive of bees to differ from that of another?

J.L.B.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Irregular Oviposiling.

[10518] The question raised by the Rev. E. F. Hemming at the close of his "Jottings" in the JOURNAL for September 8 cannot, in my opinion, be helpfully answered in the absence of further details, so as to be able to analyse the factors operating in the cases to which he refers, and in similar cases met with by other bee-keepers.

Although I have had no identical experience, I may mention that I never condemn a drone layer until she fails to improve after depriving her colony of the drone-brood combs and replacing with worker-brood combs from other stocks, allowing an interval of ten days before further examination. It is difficult to find an explanation for this occasional good influence of worker-brood on a mated drone layer.—A. Z. ABUSHADY.

Combs Stained Yellow.

[10519] On examining my hives a day or two ago, I was puzzled by finding that the surface of the wax (but not the interior of the cells) of one stock was stained a decided rich yellow, of practically the same shade as "Flavine." My bees are Dutch, and in the other hives the wax is of the normal white colour. I have not had occasion to use "Flavine" or any other disinfectant either in the hive with the stained combs or in the others, and I shall be greatly obliged if you can suggest what has caused this staining in one particular lot. I should perhaps add that the bees in the stained combs appear to be in the best of health, and no different from the rest.—D. M. Ross.

[We take it that only the cappings over the honey were "stained" yellow. The colour of these will vary according to the flowers the bees are working. If charlock, the cappings will be pale yellow; sainfoin, a straw colour; clover and heather, white.—EDS.]

Wonderful Recovery.

[10520] The first "cast" from one of my hives went up and disappeared; at 4 p.m. it arrived back. Queen and all rehived themselves, a thing I have never seen before. They had gone off to a garden some 500 yards away and settled on the currant bushes, which were in bloom. The owner left them alone, and at 4 p.m. they took to flight and came back. I saw large black drones, so the queen is all right. Anyhow, another "cast" had come out during her absence, which I hived, and it is now on 12 combs with a fine young queen bred from an autumn-reared queen, so I have done well. Much honey, in spite of drought, but I sprayed front of hives during the hot days. The bees lap up the water quickly and off again. Brood is emerging, and the young bees will soon be flying; every hive busy, thank goodness!—C. TREDCROFT.

Explanation Wanted.

[10521] Many of us have not the opportunity like your valued contributor, "I. C. A.," to visit Mr. Ellis, of Gretna, but we would like him to explain the arrangement needed for two queens in a hive? What is the advantage over separate hives? Is there only one entrance? Any queen excluders used? How about the drones? Lots of questions, you see, but really some explanation is needed for us to understand hives of 72 Standard frames.

Your correspondent, Arnold Richards, condemns hives with lift and roof in one piece. Why? In the North here we have wind—*and some wind*. We find the shallow roof far from satisfactory. Perhaps he will explain. Also, how about the Langstroth and Buckeye hives? Single-walled hives, and I am told the most popular hive in America, New Zealand, and even going strong here. If this kind correspondent will enlarge upon this hive question I know more than one of your readers who will appreciate his reply.—J. S. G.

Wasp Stings.

[10522] Some time ago I read in THE BRITISH BEE JOURNAL an article which asserted that the poison of the wasp sting was alkaline, and that an acid was the physiological antidote.

I doubted this, as I have found that the poisonous secretions of insects are of acid reaction, which is why it irritates the human flesh, being taken into the capillary circulation; so I secured a couple of "Mud Digger" wasps (*Pelopæus lunatus*) and two strips of litmus paper, a blue and a red. Next, with the point of a sharp history, I caught the extreme end of the wasp's abdomen and expelled the sting and poison-sac contents, on both pieces of paper.

A close examination of the papers under a lens showed that the blue was turned vividly red, but the red paper was unchanged, proving conclusively, to me, that the poison secreted by the wasp is acid, the same as that of the honey bee.

The amount of poison expelled by the wasp

is so small that it takes a strong lens to show it, which is why, perhaps, that someone made a mistake.—A. F. BONNEY, M.D. and Druggist (you say Chemist over there, and one term is as good as another).

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications

Recipe for Floor Polish.

[9930] Could any of your readers give me a good recipe of a reliable floor polish made from beeswax and turpentine?—F. E. LONGLEY. — —

REPLY.—The following is given in "Producing, Preparing, Exhibiting, and Judging Bee Produce."

"*Floor Polish.*—Clarified beeswax, six ounces, rectified turpentine, twelve ounces, Melt in water both just dissolving the wax, then add the turpentine and stir. May also be used as a polish and preservative for leather, wood, furniture, enamel, etc. If intended only for cleaning furniture it is better to use eight ounces of turpentine and add four ounces of linseed oil."

Care must be taken when adding the turpentine, as when heated it gives off a very inflammable vapour. If the wax is shaved into thin slices, and the turpentine added without the application of heat, it will dissolve in a few hours, the process being hastened by stirring.

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

H. F. (Northwood).—*Moving bees.*—We are afraid if the bees are only moved a short distance you will lose a good many of them. The best plan will be to take them one and a-half to two miles away for at least 10 or 14 days, then bring them back and place them on the new stand. If that is not practicable, move them one evening, after closing the entrance with perforated zinc, and after placing on the new stand put a good handful of hay, or dry grass, on the alighting board in front of the entrance. It must not be so solid as to prevent the bees coming out, the idea being that having to force their way through the obstruction they will, on getting outside it, re-locate the hive. We have known this plan adopted with marked success.

A. C. L. (Berks).—*Queens not laying.*—Many queens have ceased laying owing to the drought and consequent dearth of flowers. If you continue feeding, and the weather is fairly warm, it is possible yours may start again. Keep the bees warmly wrapped down.

Uniting driven bees to established stock.—There are several methods of doing this, but we think the best is to hive the driven bees on drawn-out combs in a hive or box standing close beside the stock to which they are to be united. Allow them to stand for a few days to settle down, and then unite by taking out the combs from the old stock that are not covered by bees. Space those left far enough apart to enable a frame of comb and bees to be inserted easily in the spaces. Sprinkle ordinary wheat flour, or pea flour, over the bees, and then insert the combs of driven bees in the spaces between the other combs Leave the best queen, and before uniting the bees cage her on one of the combs and leave her caged for 24 hours. Another method of uniting is to remove all coverings from the old stock, and put a single sheet of newspaper over the bees. Put another body box containing the combs of driven bees on the top of this and cover down The bees will gnaw through the paper, and by the time they have done this they are ready to unite peaceably. This method has the advantage of not causing much disturbance. Whichever plan is adopted, it is better to do the work in the evening.

"SOUTH HAMS" (Devon).—*Time to start bee-keeping.*—If the fruit bloom in your district is out so early as February, we think it would be advisable to get the stocks of bees now. There is the risk of wintering, but if that is overcome you will have the bees on the spot to work on the early fruit bloom, whereas you would not be able to examine bees so early as February, and it is not advisable to buy stocks without examination. You should also get them cheaper now than, say, the end of March, or early in April, which would be the earliest time you could get them next year, unless you are prepared to "buy a pig in a poke."

A new edition (the 24th) of the British Bee-keepers' Guide Book has just been published, cloth covers post free 4s. 1d., paper covers 2s 9d., post free from this office.

C W. S. M. (Scole).—(1) We are sorry we can give no reason for the bees swarming (2 and 3) Possibly the larvæ in the queen cells were drones, and were destroyed by the bees. (4) It looks as though the queen was damaged and a drone breeder, and, if so, the bees would probably accept another queen now the old one is dead.

J. G. L. (Daventry).—See reply to "C. S." (Wallington) last week.

Honey Samples.

Will readers please note we cannot undertake to find customers for their honey. Our advertisement columns are available for this purpose—and we have honey of our own to sell.

P. W. (Ilford).—The honey is of good quality from mixed sources. The particles are air bubbles, which are only able to rise very slowly owing to the density of the honey. If it is placed in hot, *not boiling*, water for 15 or 20 minutes it will clear.

H. S. K. (York).—We cannot say from what source the honey was gathered, but could not find one pollen grain from clover in it. You cannot have a better time to move the bees a long distance than the end of March.

C. R. J. (Leicester).—The cause of the cloudiness is incipient granulation. It may be cleared by placing in hot water until the granules are dissolved. Do not allow the water to boil, or aroma, colour and flavour will be all spoilt.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d. up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

September 17 to 23.—British Bee-keepers' Association Annual Show at Grocers' Exhibition, Royal Agricultural Hall, Islington, London. Entries close September 5. Schedules from Hon. Sec., B.B.K.A., 23, Bedford Street, Strand, London, W.C.2. **Entries closed.**

September 21, at Altrincham.—Altrincham Agricultural Society. Largest one-day Show in England. Several Open Classes for Honey, etc. Good prizes.—Schedules from Herbert Turner, 1, Market Street, Altrincham.

September 23 and 24 at Newport, Mon.—The Monmouthshire Bee-keepers' Association, in conjunction with the Newport Allotment Holders' Utility Show. Four classes open to all and four to members of the Association only.—Schedules from Robert Todd, Sudbrook, near Chepstow, Mon.

Saturday, September 24, 1921.—Staffordshire Bee-keepers' Association. The Autumn Exhibition of Honey, etc., will be held in the Technical Buildings, Stafford. Seven Classes for members only. Also for the best exhibit of honey in a metal comb, open to the world. Entrance fee 1s Prizes, £1, 10s., and 5s.—Schedules from the Secretary, W. Griffiths, Solway House, Silkmore, Stafford. **Entries close September 22.**

October 1, 1921 (Saturday).—Harrow Bee-keepers' Association, in conjunction with Harrow Horticultural Society, at Greenhill, Harrow. Class 42, Open to the United Kingdom, one section of honey, 1921. Prizes: 20s., 10s., 5s. Exhibits become the property of the above Association.—Particulars from J. L. Rogers, 289, Station Road, Harrow. **Entries close September 28.**

October 20 and 21.—Ayrshire Agricultural Association. Dairy Show, Agricultural Halls, Kilmarnock. 13 Classes. Liberal prize money.—Prize schedules from John Howie, Secretary, 58, Alloway Street, Ayr. **Entries close October 7.**

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* Immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 7s. per ¼in., or 12s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens** *that are reared or imported for sale, are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on MONDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

FOR SALE, six pure-bred White Leghorn April-hatched Pullets, 42s.—DYER, Compton, Berks. t.66

WANTED, Geared Extractor in good condition. State name of maker and price.—F. L. FISHER, 70a, Basinghall Street, E.C. t.67

TEN HIVES OF BEES, all strong, four spare Hives, 18 Section Racks, four Super Clearers, three Queen Excluders, four Feeders, £55 the lot. Giving up bees.—Apply, any time, HICKS, "Belmont," Woodside Avenue, N. Finchley. t.68

HYBRID ITALIANS.—Five healthy Stocks and good Hives, racks of drawn-out Shallow Combs, Taylor's Extractor and Ripener, good stores for winter.—Particulars, METEAU, Lanherne, Guildford Road, near Bagshot. t.69

STOCK HEALTHY BEES in good double hive for Sale, complete with drawn-out shallow combs, £3 10s.; 13 good Hives with frames and foundation, £6; or divide. Also Crates, Shallow Frames, etc.—MORGAN, Shepherdside, near Dover. t.70

COWAN 4-FRAME EXTRACTOR, 90s.; Non-swarming Hive, five drawers, four fitted foundation, £3; Taylor's Non-swarming Hive, £2; two Burtt's Hives, 30s. each; guaranteed disease free.—DAWSON, Market Hall, Newark. t.71

A FEW good fertile 1921 Hybrid Queens for Sale, 6s. each.—ADKINS, Moorlands, Harpenden, Herts. t.81

ITALIAN BEES.—Four 8-frame Stocks, young 1921 Queens, guaranteed healthy and strong, 65s. each net, carriage paid; boxes 5s. each, returnable; immediate despatch.—CHATHAM, Stramongate, Kendal. t.87

NEW WHEELBARROW, painted, 35s.; Wardrobe, £8; new Bee Hives from 20s. Exchange good Honey in bulk. Offers.—COULTHURST, 3, Edward Street, Moston Lane, Manchester. t.88

SEVERAL surplus strong, healthy Stocks of Italian Hybrids on 8 combs, £3 10s., carriage paid; travelling boxes 10s., returnable.—MRS. "S.," Middleton House, Pickering. t.89

SURPLUS hybrid young fertile Queens, 5s. 6d. each.—HILDRETH, 37, Suffolk Street, Birmingham t.84

FINEST ENGLISH HONEY, £8 per cwt.; sample 3d.—DUTTON, Terling, Witham, Essex. t.83

RYMER HONEY PRESS, equal to new, £2 12s. 6d.—PEARMAN, Longford Street, Derby. r.t.31

BERKSHIRE HONEY, in 28-lb. tins, 1s. 6d. per lb.; tins and carriage free; smaller quantities if desired.—DR. BELL, Lambourn, Berks. t.41

PURE light Cambridge Honey (guaranteed), 13-lb. tins 18s. 6d., 28-lb. tins 39s. 6d.; sample 4d.—YOUNG, 42, James Street, Cambridge. r.t.54

FINEST SAINFOIN HONEY, excellent flavour, £6 15s. per cwt., carriage paid.—HOGAN, Boxford, Suffolk. r.t.56

DRIVEN BEES.—Wanted, several healthy lots. State quantity and price per lb.—GWYNN, Coningsby, Malvern. r.t.59

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Seasonable Hints.

Those who have not yet made a final examination of their colonies of bees should do so at once. Taking it on the whole, the season has been a good one, but, judging from reports we have had from various parts of the country, the conditions prevailing in our district in South Beds. have been general, very little honey being collected since July, enough to keep the queen laying, but barely plenty to keep the young larvæ fed without drawing on the stores that should be reserved for winter use. Where feeding is needed it should be done without delay, thick warm syrup made with ½ pint of water to each pound of sugar being given as rapidly as the bees will take it. It is much better to get an abundance of stores in the combs so the food will last right into the spring, and there is no necessity to feed with candy during the winter. The old saying that "the best time for spring feeding is in the autumn" still holds good. Abundance of good food stored in the combs and plenty of young bees now, means successful wintering. We note one of our correspondents advises giving soft candy now. Candy should be looked upon as an emergency ration, and we much prefer to give syrup, as it saves the bees the work of carrying in water in order to liquefy the candy and store it in the combs, which they will do if it is given now. It not only gives the bees more work, but takes up more time, a dozen pounds of sugar made into syrup will be stored quicker than only 1 lb. of candy.

One correspondent asks us for hints on dealing with foul brood. This matter is treated very fully in "The British Bee-Keepers' Guide Book," but we may say to those who have only just found the disease, or who have put off treatment, that it is now too late in the season to adopt heroic methods. Medicate all food, either syrup or candy, and keep the hive supplied with disinfectant. The syrup may be medicated with naphthol beta or bacterol, and the latter also used as a disinfectant as advised in our note to Mr. John Gibson on page 444, or use apicure and naphthaline. Care must be taken not to use appliances, etc., that have been in contact with the infected bees, and, as brood rearing will be at its lowest during the next five or six months, the disease is not likely to develop. In the spring the stock may be dealt with as circumstances may suggest.

We are sorry we have been unable to obtain the list of prize winners at the Grocers' Exhibition in time for this week's JOURNAL, and therefore also reserve our notes on it until next week. Another good show, which is very convenient for northern bee-keepers, is the one to be held at Kilmarnock on October 20 and 21. Very good prizes are offered, and there is one feature that we believe to be unique. A standard of points is given according to which the honey is to be judged, and a card showing the points awarded will be affixed to each prize lot. The standard of points is as follows:—

RUN HONEY.

Flavour	20	points
Consistency	15	,,
Colour	7	,,
Cleanliness and get up ...	5	,,
Aroma	3	,,
	50	points.

COMB HONEY.

Regularity of comb ...	10	points.
Completeness of finish ...	10	,,
Colour of comb	7	,,
Flavour of honey ...	10	,,
Consistency of honey ...	10	,,
Colour and purity of honey	8	,,
Cleanliness and get up ...	5	,,
	60	points.

Frankly, we do not like this judging by fixed points, and do not envy the judge, Mr. J. Tinsley, his job.

A Dorset Yarn.

Have had some bee-keepers staying at the Farm for their holidays this last week. Sunshine each day but Saturday. Bees were very busy on perennial asters, and it is remarkable their preference for some varieties and colours; the shades of blue were not so much sought after as the purples and red mauves. We saw this in the beautiful flower borders at Canford Magna, the residence of Cornelia, Lady Wimborne. On the purple flowers were crowds of bees; they were gathering pollen, and by their movements should say honey also. This variety closes its flowers at night, and there were all sorts of flies as well as bees, but always double the number than there were on the light blues. Some of the very small flowering varieties had no bees at all on them. Why the purple mauve one should have the most bees must be that there was more food for them, yet this shade of colour are all modern hybrids, while many of the pale blue ones have been about numbers of years. The annual asters had not nearly so many bees as the former, but on these the single ones had more bees than the double flowering varieties. Bees

were very numerous on the sweet-smelling heliotrope, which is so largely planted now near the dwellings of the wealthy.

"Give us plenty of sweet-smelling plants near the house, so that when the windows are open the sweet odours can be appreciated." This is over and over again said to the gardeners who arrange the flowers on these estates. At Sir John Lees' Dorset grounds, the heliotrope was also close to the mansion. We saw this on Saturday when an easterly wind was blowing; then there were no bees to be seen on them, but among the large trees in the grounds there were trees in bloom that bees delight in. The able gardener is a keen bee-keeper. He told us that the large trees of Osmanthos have bees on them all the time the weather is favourable; the flowers are small, like the holly; the leaves are small also, like the holly, but it has not the prickles. These trees are slow growing, but here it is wonderful with its many flowers in autumn.

The many forest trees finish with the sweet chestnut, but in this favoured place this tree gives abundance of flowers, as does the strawberry tree, which will carry on into next month. All the flowers are developing fast. On these places the bee-keeper has a decided advantage over those who are away from these and other wonderful gardens. There are others who have bees close by; they also reap the advantage of this wealth of late flowers. Here also were large plants of Yuccas, with nine and ten spikes of white flowers in perfect pyramids, five and six feet high, with hundreds of flowers on each; these flowers are fertilised by moths, not bees. A great many belladonna lilies were in flower in front of glasshouses.

In this village the parson keeps bees all close to this wealth of flowers. His bees also steal the sweets of the baronet's flowers. They did well the early part of the season, but not so well the latter; he is one of those zealous Christians who have so many services with beautiful music, especially with the Communion Service. No one can say there is no time to go, as he has services so often. He was showing his bees to another parson after one of these early morning services in June, before they had taken off their long cassocks. The hives are placed by the side of a ditch of water, and his friend, when stepping back from an angry bee, got his legs mixed up in his cassock and rolled into the water. At that time bees were working early, this was about 9 a.m., as they were going into breakfast on a June morning.

Mr. Dance speaks of bees in India (where he was with the army for four and a half years). So interesting was it to us that I asked him to send a few pars to the Journal, which he has promised to do. When he does I shall drop the Dorset yarn till another time. That wonderful Empire, with its variety of bees, must be of interest to the readers of our little paper; to the horticulturist it is full of interest. Such a vast country must give a lot that will interest the bee keeper.

Our bees are still crowding the brood chambers with brood. One stock which was crowded with bees in both the standard and shallow combs, that had previously been full of brood, not a patch of brood could be seen. One of my visitors said he thought there was no queen, but the other saw the bees carrying pollen in freely. We must look again for her before closing down for winter. The driven bees have a large patch of young capped larvæ in the combs; each had a full comb of stores given them, with other extracted combs. — J. J. KETTLE.

Jottings from Huntingdonshire

Rain has come, but the following winds have a touch of the north, and a distinctive autumnal feeling is in the air. The hedgerows have transformed themselves from the garb of green to shades of fawn, brown and red. The mouse weed is dotted about in meadow and wayside, and the bees neglect them not. The ash trees still maintain their summer green, while the leaves of elm and oak are shading off to gold and yellow and bronze. The hornbeams, green and gold, scatter their first-born leaves, and the cattle lick them up, glad to be able to graze their fill free from the tormenting flies and gnats. The young foals have clothed themselves with shaggy coats, sure sign that autumn is drawing near. A few bees brave the elements and sally forth, returning with pollen and nectar from the ivy blooms, but the majority stay within, for much brood is there, and must be warmed and fed. Scouts and sentinels sheepishly crawl about the alighting board, ready, despite their apparent sloth, to pounce upon any stray wasp that may chance to alight, or bees on robbing bent. Oh! the romance of the alighting board! What an index it is to the soul of life within the hives! It is there we look in the warmer days of February to see if any young bees appear. If we see them we rejoice, if not we wonder is all well within. There again we go when the hazel catkins bloom; we see bees scurry in laden with pollen, and our heart rejoices. Later on we see drones and know that the population inside the hive is multiplying apace. One day we note a crowd of bees on the board, and few except drones flying, and we know a swarm is imminent. Do we see the bees rushing in and out up to the roof and around the sides we know the queen is not within and lose no time in putting their insect minds at rest. When hives are in this condition I have often placed a queen on the alighting board. Stranger though she is, she is welcomed by the sentinels with obvious glee. She runs in accompanied by a rapidly-formed guard, and soon the whole hive hums a joyful welcome. I have never lost a queen in this way, and never expect to. Shortly after entering her new kingdom her majesty begins to lay, and the joy of her new subjects is complete.

On the alighting board again, we know whether honey is coming in fast or slow, from a near or distant source. See the bees

drop heavily with scarce power to crawl up to the entrance, and you know the flow is good, but the source not very near at hand. Quickly bees from within come to the assistance of the heavily-laden ones, relieve them of some of their nectar, and together enter to store the sweet. Do they alight and rush in pell-mell, there is a flow, but not over abundant, and their anxiety to get it all before it fails is only too evident. At times you see the little ladies alight, go to the entrance and turn back, circle around on the board, fly up for a few yards, settle again and enter. You know from this the source of honey is near at hand, and the short flight back to the hive has been insufficient to enable the carrier to strain the fluid ready for storing.

Alas, that the alighting board were always a sign of wealth and peace! Sometimes, however, bees are seen to crawl about with disjointed wings; they attempt to fly and fall. Something is amiss which calls for prompt action, failing which the once delightful alighting board becomes marked and stained, and we know a fell disease has possessed the hive. The heart of the owner sinks as he fears the whole stock may have to be sacrificed on an altar of fire. Oh, yes, the alighting board is always speaking. Go forth in September and see drones crawling on the board, and know that something is wrong. In late October a day is chilly, and yet you see bees thick at the entrance: food is short there. But we must not wait for this. Cakes of candy should have been placed beneath the quilts when wintering down. Why will people risk the loss of their bees? Rather leave them over much than too little food. Now is the time to make sure all is well. Don't be foolish enough to experiment on how little your bees can winter on. A good stock might winter on 10, and may need 15, 20, or even 24 lbs. to carry on till spring appears. But don't risk wintering on less than 20 lbs., or perhaps you'll be a sorrier man in the days of March.—E. F. HEMMING, Steeple Gidding.

Sussex Notes.

In the "B.B.J." of September 8 (see "Seasonable Hints" in the Editorial) it is mentioned towards the end of the article that it is as well to have a "bee proof comb container or box," if the hive does not hold more than the usual ten combs. There may be some persons besides myself who are not quite sure of the meaning of a "bee proof comb container." So would the Editor kindly give a note about the same at the foot of my present letter?

The more we see into the effects of the present season as regards the South of England the more necessary it will be for all bee-keepers to feed, and feed early, if they wish to see their stocks come safely through the winter. The drought throughout this part of Sussex had been so severe that bees have done little or nothing after the beginning of July. Where flowers have struggled through the arid dryness they have produced neither pollen or nectar, and certainly through the whole of August bees have been absolutely idle. When I took my full racks off—the end of June—there was a plentiful supply of stores below; but when I removed my second taking of honey I did not get more than 25 sections from four hives, and I doubt if bees did much work after the middle of July. I am therefore going to commence feeding on soft candy at once, and those that do not do so will, I am afraid, be pretty sure of dwindled stocks, if not, in all likelihood, of empty hives. Never in the memory of living man has there been such a drought as has occurred in the year 1921. Fields have been so bare that it has been impossible even for sheep to find a living on them. How this must have affected the white clover, the heather, and various wild flowers can easily be imagined. The heather just blossomed and almost at once died down. I think I mentioned in a former letter that the bean fields and the blackberry blossom really saved the situation this year, and I now realise that without them we should have gathered little or no honey for our winter use. The moral of it all is, that feeding throughout the winter must be continuous.

One very curious thing is that even the ivy has failed to blossom to any great extent. Usually bees are busy on it at this season of the year. Hardly a single bee can be seen on it this year, so I can only suppose that there is neither pollen or nectar in it, and hives are strangely quiet, even on a fine day. Whether the advent of the present rains will in any way alter the situation time alone will show. The rain has come too late, and it is not only the bees that have suffered, but there will be extreme difficulty in carrying any stock on the land during the winter. A bad, a very bad, outlook for the farming interest in the South of England.

I have had one of the disused chimneys in my house invaded by a swarm of bees this year, and they appear to have settled down very comfortably in their new quarters. There are really four chimneys in the stack, but the one occupied by the bees is bricked up where the fireplace would ordinarily be situated. It showed some discrimination on the part of the bees to have selected the chimney not in use, for no fires were lit in any of the four chimneys during the summer. Perhaps the part of the disused chimney being cleaner than the other three carried the day as regards their making what may be, I hope, a permanent home in this house. Some people look on it as a good omen, and that it will bring good luck. May they be right.

The poet Virgil, in Book IV. of the "Georgics," mentions that if swarms die away, the way to get a new lot is to kill a bullock and let a new swarm be provided in the intestines of the slain animal. Verily, in olden times people believed anything that was told them, but whether they were happier in the time B.C. than they are now, it is very hard to say. Though there is a great deal of nonsense in what Virgil says about bees, there is also a large substratum of truth, and it shows that more than 2,000

years ago apiculture was practiced largely by the Romans.

What Virgil would have said or written about bees taking up their quarters in his house it is impossible to imagine. In the Himalaya Mountains the houses of the people nearly all contain beehives in the walls, and the honey when wanted is got at by removing a loose slab of stone at the back of the nest: and better honey than is made in those nests it would be hard to beat.—M. TWEEDIE, Beckley, September 14.

[A bee proof comb container or box means just what it says, a box that will hold one or more combs, and can be closed so that bees cannot get in. Any box with a lid to it that will take a standard frame will serve, or a box can be specially made, and will often be useful.—EDS.]

A Trip to the Trent Valley and Back.

By TOM SLEIGHT.

(*Continued from page* 427.)

But I must leave old-time scenes and pass through North Mushham, once the home of a large bee hive works and a large apiary. I hear very little about it now, so I expect the bees have gone the way of a great many more. I take the Great North Road again for Cromwell, but there is no pleasure biking on that great highway if you are out to study Nature, the traffic is tremendous, and I was glad when I turned off again to Norwell. Here on the red clay the wheat and bean crops are very good, oats and barley want rain. I call and see an old bee-keeper friend here, who says he has had three swarms fly away, but to see the beautiful comb honey that he had got from the bean flower beat anything I had ever set eyes on. I always understood bean honey was dark, but this, no, it was pretty near the colour of water, and the capping nearly white. I should say one could have read print through the comb. It will be at the Royal Show all being well. It is a noted place for beans around Norwell. There are fields and fields of them. As night is drawing in to the hottest day we have had lately, I wend my way (after bidding my friend adieu) to Carlton-on-Trent, where I cross the G.N. Railway. How funny to see the gates standing wide open hour after hour for the road traffic, and only shut for an occasional train to pass when in normal times it is the other way about.

I must not leave this part without putting in a word about the coal strike and its effect on different things noticed on this ride. Close here has been stood in a field a set of steam cultivators for ten weeks, and the ten weeks have been the best for summer fallowing this old red clay land that any farmer could wish for. The result is a great lot of it has to go undone, and the job people have to cook any food, nobody knows only those who have no coal, but as I am close to Sutton-on-Trent, and it is nearly dark, I must get along to Grassthorpe again for the night.

June 19.—A dull cool morning, which turned to one of those lovely days when cloud and sunshine are intermixed with a cool east wind. Not feeling like riding I defer my journey back till afternoon. I try to come back a different way, but have to go over some of the ground again for a little way in places, thus coming through Normanton-on-Trent, I follow my lovely dog-rose covered lane to a little hamlet called Skegby, and turning sharp make for Tuxford station. At Skegby I saw the first grass being cut, it is all red clay to Tuxford, but I saw the best oat crops on there I saw anywhere; they were all shot out full length. I should say they were winter oats, ten big beasts in one field were making sad work. Getting into Tuxford I follow the Great Northern Road to Markam Moor, then on to West Drayton, where I was told to follow the avenue to Clumber. That is a cyclists' road, for no motors are allowed on it, and it has elm and sweet chestnut trees both sides for three or four miles. It comes out close to Normanton Inn. Wild raspberries and blackberries line both sides in places. Seeing a clover field I went and lay down in it to see how many bees were in that part. They are not very thick about there, for I lay ten minutes before I saw one, then three came along. It was a large field, and by the scent of it many pounds of that most delicious, sweet, clover honey were fading away into thin air. I could tell when I was by the side of a clover field without looking after that. Getting out on the Ollerton road I follow it to Thoresby Park, which I cross. There seems to be a great stretch of land in there, and on Budby Forest that grows very poor grass, or only bracken, no good for bees, not a clover nob to be seen, only a few lime trees. Coming on to Gleadthorpe farm a seedfield they were cutting had a kind of a yellow marigold weed that covered half the field with yellow. In all my travels I have never seen that weed anywhere else. I also came across another obnoxious weed at Norwell in one field that I never saw anywhere else, and I never want to, for it had a most hateful smell. The marigolds had a pleasant smell. A very large farm is Gleadthorpe. I should say three clover fields, side by side, on the road would be over 100 acres. I have heard my father say a man made a fortune on that farm growing wheat on it in the '70's. The wheat on it now would not make anyone a fortune, as I only saw one field. I come on past Church Warsop as the clock strikes five. I have had good riding all the way so far, but now I start to climb, and from here to Stony Houghton is a dead pull. Few people are about at Warsop Vale, and it was market day at Shirebrook. It made me think there was a strike on or something, for it was so quiet. One poor woman I spoke to in Warren Terrace. It was heart-rending to hear her how they were going to live the next week. Why ever the men didn't vote to go to work she could not imagine, but I left her sorry

and sad, and pushed the old bike up the hill. Passing Houghton I ran on to Rowthorne, and through Hardwick Park, when I start on another long climb into Harstoft Oh! no, these Derbyshire hills are not Trentside cycling. There I did fifty miles in May, and never was 20 feet above starting-point, but here we get the free run from the hill-top, which I did from Harstoft, through Waterloo and Danesmoor, to Clay Cross, having done the journey in six hours.

Cotswold Notes.

We have almost concluded the annual autumn colony examination. After a damp, cool summer, when stores are short, this job has its unpleasant side. This year, during the delightful weather we have had, it has been a real pleasure—no stings and no robbing.

In the best districts bees have done exceedingly well, and now that the surplus is all off the hives, the condition of ten comb colonies is about as follows:—

The two outside combs are solid from top to bottom with sealed honey, and the remainder have 2 to 3 lbs. in each comb; so that the total amount is anywhere between 24 to 36 lbs. There is very little brood, as most queens have ceased laying early this year.

Early swarms gave a good surplus, and then showed themselves to be the heaviest in stores. Their brood combs were filled almost solid during July. In most cases the bees have since superseded their old queen.

Such colonies with less than 18-20 lbs. of stores have combs of honey transferred to them, making up the quantity to not less than 25 lbs. Stocks marked for feeding are not stimulated, but fed solid with thick sugar syrup.

Notwithstanding the lack of brood, there is every indication that stocks are going into winter quarters exceptionally strong and well stored, and nothing is quite so good as a liberal supply of sealed honey.

The experience of past seasons confirms this fact beyond dispute.

* * *

One feature of the season has been the exceptional yield from charlock.

Owing to the dry spring, charlock became firmly established in the upland corn lands, and in June such fields were one magnificent sheet of rich yellow.

Spraying was rarely resorted to, but several fields fell before the knives of the mowing machine, to the dismay of the village hive owners!

Pure charlock honey became quite cloudy three or four days after extracting, and was quite hard a week later; granulating extremely white and hard.

Willow-herb was another surprise. A perfect hum came from the delightful pink clusters on the hot August days when the late clover had been scorched up. It kept the bees from robbing, and helped to fill the brood nests of late swarms and casts.

A real hot summer is an "eye-opener" to the observant apiarist as to the yielding capacity of various flowers. Sources which ordinarily yield little or nothing were worked continuously, especially during the heat of July.

All things considered, bee-keepers hereabouts have every reason to be satisfied with 1921 as the best bee season for several years past.—A. H. Bowen, Cotswold Apiaries, Cheltenham.

Bramhall, Cheadle Hulme, and Woodford Horticultural Society.

In connection with the above Society's show, held in Bramhall on Saturday, September 3, a very successful exhibition of honey was shown by the local members of the Cheshire Bee-Keepers' Association within a radius of six miles, and seventy-one entries were made, which constitutes a record in the history of the show.

Mr. E. W. Franklin, hon. secretary of the C.B.K.A., judged the exhibits, and made the following awards, which was no easy task as the competition was very keen; a new feature also was the "gift" class for the Stockport Infirmary, which was responded to without exception:—

Class 118, for the best 12 sections (four entries).—1, Mr. J. C. Booth, West Didsbury; 2, Captain Nevill, Bramall Hall; 3, W. Broadhurst, Dean Row.

Class 119, for the best 12 jars extracted light honey (15 entries).—1, J. E. Beech, Bramhall; 2, N. E. Broughton, Wilmslow; 3, G. Barker, Bramhall; reserve, Captain Nevill; v.h.c., J. H. Leech.

Class 120, for the best 12 jars extracted medium or dark honey (nine entries).—1, J. E. Beech; 2, Fred Smith, Cheadle Hulme; 3, G. Barker; reserve, J. H. Leech.

Class 121, for the best shallow frame (nine entries).—1, J. H. Leech; 2, W. E. Broughton; 3, Captain Nevill; reserve, G. Barker.

Class 122, for the best sample of wax, ½ lb (seven entries).—1, Septimus Wright, Wilmslow; 2, J. H. Leech; 3, H. W. Stretch, Bramhall; reserve, J. E. Beech.

Class 122G, gift class, for the Stockport Infirmary; prizes given by Captain Nevill (27 entries).—1, J. E. Beech; 2, A. E. Carter, Wilmslow; 3, H. W. Stretch; reserve, Captain Nevill; v.h.c., J. C. Booth.

The silver spoon, given by the C.B.K.A., was awarded to J. E. Beech, having secured the most points, and the silver-plated spoon awarded to J. H. Leech.

A remarkable fact of this show was that the first prize for the best sections was awarded to a bee-keeper whose apiary is within sight of the Manchester Town Hall, and his honey was fifth in the gift class, but did not compete in the other classes.

The results of this season is the finest and best, both in quality and quantity, that has been known for many years. The average takes in this district was about 70 and 80 lbs. Swarming was rather excessive during June, in the hot weather, and many were lost, and nuclei were easily made without any detriment to the results.

With only one or two exceptions the ex

hibitors were all novices, and was their first year of bee-keeping. The staging was undertaken by the hon. local secretary of the Stockport district of the C.B.K.A., Mr. W. Bradburn, of Bramhall, who was very proud of the display, and well rewarded for his trouble, and wishes to thank the local members for their support.

In the afternoon, before a large and interested audience, Mr. Franklin gave a splendid lecture and demonstration in the bee tent, accompanied by two of the Association experts, Mr. Stubbs, of Crewe, and Mr. Bradburn. He explained what a hive consisted of and the bees' use in pollinisation, and drove it home forcibly that what this country needed at the present time after the terrible war was production, and urged the audience to take up bee-keeping from this point of view as well as a pleasant hobby for business people. A lively young queen was found and shown round to the spectators.

The working of a hive during the season was fully explained, and the lecture concluded with the usual answers to questions, and Mr. Franklin, went away quite pleased with the excellent arrangements and the show generally, and although the district is the largest in the country, there are indications that the membership, which consists of business people of Cottonopolis and adjoins the districts of Wilmslow, Alderley, and Altrincham, also strong districts of the Association, will still increase in the future.

(*Communicated.*)

The Chester Show.

The Cheshire B.K.A.'s show was held at Chester on August 31, and was one of the best we have seen there, even in pre-war days. All the honey classes were well taken up, and the quality of the exhibits good all round. The large tent for honey was nicely filled, and made an imposing show. Exhibits of extracted honey, sections, and shallow combs were staged in tiers along both sides of the tent, while the long central table held at one end a nicely-arranged trophy of honey, honey products, and wax, displayed—not for competition—by Mr. Abell, of Blythe Bridge. The beeswax exhibits occupied the middle portion of the table, and at the other end were the Observatory hives.

The Rev. Canon Evans, of Knutsford, and Percy Hinde, Esq., of Liverpool, officiated as judges and they are to be complimented on the way they came through a most difficult task. A full list of the awards will be found in another column. In the light-coloured honey classes the competition was very keen. Some exhibits in the class for medium-coloured honey were disqualified, owing to being in the "wrong class"—either too light or too dark. Other exhibits suffered from being slightly granulated, and this condition seems to have set in earlier this season than usual.

The Observatory hives were a constant source of attraction. Mr. F. Newport's hive, which secured the premier award, was of the usual exhibition type, showing both deep and shallow combs, and sections. It was populated with a nice lot of five-banded Italian bees, headed by a Piana queen. The second-prize exhibit was a Nicholson one-frame Observatory hive, tiered with an additional deep comb for the occasion. This type of hive is admirable for "observation" work and for lectures, but was hardly intended for competition. The bees occupying this hive were, however, a fine lot, and were greatly admired by both novice and expert bee-keepers. The queen, imported direct from one of America's most noted breeders, "Ben Davis," produced some of the most beautiful golden Italians we have ever seen, and, unlike many Italian strains, they cap their stores as white as anyone could wish. Their owner, Mr. Sturges, of Hartford, who specialises in raising A1 queens from the world's best strains, regardless of cost, is to be congratulated on the quality of the stock he turns out. He has done yeoman service, not only to Cheshire bee-keepers, but to wide-awake apiarists from John o' Groats to Land's End.

Weather conditions were not all that could be desired, being dull and showery, but it cleared up splendidly by the time appointed for the "Lecture on Bee-keeping" in the bee tent. The lecturer this time was Mr. Franklin, the worthy secretary of the Association. He dealt with the practical side of bee-keeping, demonstrating to his large and appreciative audience how to handle bees, and work them for the production of surplus honey. The subject was so fascinating that the lecture came to an end much too soon, and the number of questions asked at the close of the lecture testified to the keen interest awakened in many would-be bee-keepers.

The following is a full list of the awards at the above show:—

Best Frame Hive.—Frank Newport, Tattenhall.

Beginner's Outfit.—F. Newport.

Twelve Sections Comb Honey.—1, G. Evans, Broomstead, Newport, Salop; 2, C. W. Dyer, Compton, near Newbury, Berks.

Twelve Bottles Honey.—1, George Evans, Newport; 2, John Birkett, Rainhill, Lancs.; 3, William Emery, Whitegate, Winsford; r., Geo. Randles, Glan Aber, Hope, Wrexham.

Observatory Hive with Bees and Queen.—1, Frank Newport; 2, Arthur M. Sturges, Hartford, Cheshire.

Gift Class, One Bottle Honey.—1, Samuel Littler, Hall Farm, Wimbolds, Trafford; 2, Frank Newport; r., John Acton, Daresbury, near Warrington.

Six Sections Comb Honey.—1, William Emery, Whitegate; 2, Mrs. Agnes M. Johnston, Over Dee, Curson Park; 3, J. E. Palmer, Tilston Lodge, Tarporley; h.c., Will Davies, Northop Hall, Flintshire.

Twelve Bottle Run Honey, Class 126 (members).—1, William Emery, Whitegate; 2, Frank Newport, Tattenhall; 3, John Acton, Daresbury; r., Harold Bellis, Holt, near Wrexham; v.h.c., J. Richardson, Warmingham, Middlewich; h.c., H. Stubbs, 54, Lord Street, Crewe.

Twelve Bottles Medium-coloured Honey.—

1, Fred W. Fenn, Broomfield, Neston; 2, Harold Bellis, Holt, Wrexham.

Two Shallow Combs of Honey.—1, J. E. Palmer, Tilston Lodge, Tarporley; 2, Harold Bellis, Holt, Wrexham; 3, Fred W. Fenn, Neston; r., William Emery, Whitegate, Winsford.

Beeswax.—1, T. Alun Jones, Halkyn, Flintshire; 2, Frank Newport, Tattenhall; 3, John Boden, 36, Tunnel Top, Barnton; r., Fred A. Fenn, Neston.

Class 131—Twelve Jars Honey (open to members who did not win a first or second prize at the Cheshire Show in 1920).—1, F. Morris, The Limes, Middlewich; 2, Samuel Littler, Wimbolds, Trafford; 3, William Emery, Whitegate; r., Frank Newport, Tattenhall; h.c., John Acton, Daresbury.

Class 132 (open to members who had never won a prize before).—H.c., John Clark, Varna, Moreton, Birkenhead.

Mr. F. Newport won the silver spoon given by the C.B.K.A. to the member of the Association scoring most points, and Mr. Wm. Emery secured the electro-plated spoon.

T. ALUN JONES.

Halkyn.

Glasgow and District Bee-Keepers' Association.

The third annual exhibition of honey, hives and bees was held on September 7 and 8 in conjunction with the Glasgow and West of Scotland Horticultural Society at St Andrew's Halls.

The exhibition consisted of hives and appliances by Messrs. Steele & Brodie, Wormit. A hive and feeder made by Mr. Robert Bell, Glasgow, and an observatory hive with bees by Mr. Peter Bebbington, Glasgow. These were of great interest to the visitors.

Entries were received in three classes, the awards being as follows :—

Class 1.—Three Sections Honey : 1st, Mr A. E. Warren, Bletchley; 2nd, Mr. John Walker, Kilmaurs.

Class 2.—Three Jars Honey : 1st, Mr. R. Whyte, Cumbernauld; 2nd, Mr. A. E. Warren, Bletchley.

Class 3.—Three Jars Granulated Honey : 1st, Mr. A. E. Warren, Bletchley; 2nd, Mr. R. Whyte, Cumbernauld.

Middlesex Bee-Keepers' Association.

On September 10 the Brentford Allotments and Cottage Gardens Association held its annual exhibition, Classes 62-66 being classes for honey.

The honey classes formed an attractive feature, and the exhibits reached a very high standard of merit. The judge was Mr. G. J. Flashman, who made the following awards :—

Class 62 (open class, extracted honey, 14 entries).—1, Mr. A. Emerson, Brentford; 2, Mr. P. J. North, Cambridge; 3, Mr. R. Babbage, Brentford; h.c., Mr. Lee, Blackpool.

Class 63 (open class, sections, 7 entries).—1, Mrs. Crawshay, Scole Norfolk; 2, Mr. C. W. Mullen, Cricklewood; 3, Mr. R. Babbage, Brentford.

Class 64 (semi-comb, 1 entry).—H.C., Mr. Bale, Golder's Green.

Class 65 (extracted honey, 12 entries; open to members of Middlesex Association only).—1, Mr. Babbage, Brentford; 2, Mrs. Hodson, Enfield; 3, Mr. Bale, Golder's Green; h.c., Mrs. Hodson, Enfield.

Class 66 (sections, 6 entries; open to members of Middlesex Association only).—1, Mr. Kendall Young, Sudbury; 2, Rev. Luther Bouch, Uxbridge; 3, Mr. Babbage, Brentford.

The bronze medal B.B.K.A. was awarded to Mr. Emerson, Brentford, for best exhibit, a jar of dark honey.

An excellent exhibit (section of honey) by Mr. Rye, Uxbridge, was unfortunately overlaced and had to be disqualified. Mr. Rye also showed an almost perfect shallow comb, not for competition. An observation hive by Mr. Babbage, and samples of mead by Mr. Young were much appreciated.

Brentford is to be congratulated.—C. W. MULLEN, Hon. Sec., Middlesex Association.

Twickenham and Thames Valley Bee-Keepers' Association.

The annual honey show held in conjunction with the Twickenham Horticultural Society's Fruit and Vegetable Exhibition was held at the Town Hall, Twickenham, on September 14. The number of exhibits in every class was greatly in advance of previous years, and, considering the season, it was an extremely good show of honey, the competition in most classes, and especially those for extracted honey, being very keen. Mr. A. G. Gambrill, of Richmond, judged, and made the following awards :—

Gift Classes (Open).—Class 1, One jar extracted honey : Mr. C. Robinson, Grateley, Hants.

Class 2.—One section : Mrs. Scott, Brandesburton, near Hull.

All exhibits in these classes were presented to St. John's Hospital, Twickenham.

Members only.—Class 3. Three jars extracted honey : 1, Mr. G. Patterson, Isleworth; 2, Mr W Ing, Hampton Court; 3, Mrs. Fox, Twickenham.

Class 4.—Three sections : 1, Mr. G. Patterson; 2, Mr. W. Ing; 3, Mrs. Fox.

Class 5.—Shallow frame : Mr. J. G. Romer, Kew Gardens.

Class 6.—Wax : Mr. G. Patterson.

Class 7.—Three jars granulated honey : Mrs. Fox.

Class 8.—Home-made hive appliance : Mr. W. Ing.

Mr. G. Patterson won the Burnet challenge cup and B.B.K.A. silver medal; Mrs. Fox, bronze medal; Mr. W. Ing, bronze medal; and Mr. J. G. Romer, certificate of merit.

Messrs. J. Lee & Son, Ltd., of Uxbridge, staged an excellent exhibit of hive appliances.

M. BYATT.

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of August, 1921, was £15,563.—From a return furnished by the Statistical Office, H.M Customs.

CORRESPONDENCE.

Experience with Driven Bees and Foul Brood.

[10523] I have had an experience with driven bees during the past week which might be of interest to other bee-keepers and at the same time you may be able to tell me where the fault laid.

I had a very weak, queenless lot, only occupying about one comb, just a handful of bees, so I decided to procure and introduce to them a driven lot, which I did in due course through an advertisement in the JOURNAL—a real nice lot, and well worth the money I paid. They arrived in a box with one side part perforated zinc, about one-third, and four ventilation holes on the other sides.

Now this is where the trouble came in; in order to introduce to so small and weak a lot. I thought to turn the driven lot perforated side down on top of frames, leaving the four ventilation holes well to the top of box; this was all that was necessary for a few hours before drawing the slide and liberating the bees. Imagine my dismay on going to do this eight hours later to find the driven bees had sweat, and were nearly all dead, including queen. I have been a bee-keeper well over thirty years, and, like many more of your readers, I am always learning; but this experience has made me feel very much like a novice again.

I notice in page 414 of BEE JOURNAL Mr. Hemming advises the same method as one way, although I had done the mischief before reading his article.

I am of opinion that had box been perforated both bottom and top the bees would have been alive, and that the four ventilation holes were not sufficient, although there was no heat in the bottom box. I shall be very grateful for your or readers' opinion, and I will certainly take a lot of enticing to try the same method again.

During the past season I have had trouble with foul brood, and as "Bacterol" was the only remedy I could come across in BEE JOURNAL, I commenced spraying with it in June, taking all sealed brood away. I have sprayed at regular intervals of, say, three weeks, but find the disease still there. Although the hive has made up a good deal in numbers, it was down to covering only three combs in June; it is on eight at the present time. Will feeding with medicated syrup banish it? Suppose I take away all honey and medicate it with "Bacterol"? The season is too far on to spray any more, and it was always a task to keep the bees on combs after spraying, as they would crowd outside on the alighting board or between the inner and outer box, and so risk chilling the brood.

I am sure that a few words on the best method of introducing driven bees could be included in your seasonable hints at this time of year; also on the treatment of foul brood.

Trusting you may be able to enlighten me on the above.—JOHN GIBSON.

[Our correspondent and others will find a note on uniting driven bees to others in our "Answers to Correspondents" column last week. With regard to spraying with "Bacterol," we are not told the strength of the solution. We have done this repeatedly, and have not had any trouble with a dessert-spoonful to a pint of water. The spraying should have been done once a week; but a better plan would be to have a pad of cotton wool or felt fastened on the inside of the division board on which a tablespoonful of general Bacterol could be poured, say, once a fortnight until the disease abated, and afterwards at longer intervals. The main point to be kept in mind when dealing with disease is to have the remedy always present.

The plan of extracting the honey from the brood combs, medicating and feeding back, is a good one, but we are afraid it is too late to do it now, so far north as Cumberland, though it might possibly be done in the southern counties. Our correspondent had better confine his efforts to medicating any food given, and keeping a supply of disinfectant in the hive until the spring, when more drastic methods may be adopted if necessary. —EDS.]

Annual Sweet Clover.

[10524] My attention has been drawn to your issue of April 14 last, in which you remark upon the inability to obtain seed of the new annual sweet clover.

Notwithstanding A. I. Root's statement to the contrary, there was a large quantity of this seed on the market last year in the United States, realising a price of 40s. to 50s. per lb. (avoirdupois).

I have a small trial plot of the clover planted this year. It was put in on April 27, and by July 21 had reached a height of 3½ ft., with blossom buds appearing. From then onwards the bees have been very busy with it. The seed pods are now beginning to form. A photo follows by the next mail. [This we have not yet received.—EDS.]

There are three kinds of sweet clover grown in this Continent—two biennials, Melilotus Officinalis and Melilotus Alba, and the third is the new annual now commonly known as Hubam clover. This last is the one referred to in the early part of my letter.

Melilotus Alba is white flowered, growing with us 4 to 8 ft. in height.

Melilotus Officinalis is yellow flowered, and grows from 3 to 5 ft. in height.

The former is the greater favourite. If it would interest your readers I should be really glad to send you a short account of these clovers.

I have no seed for sale, but through my agricultural routine I have just received a list of growers.

If any of your readers would care to write me I should be glad to put them in

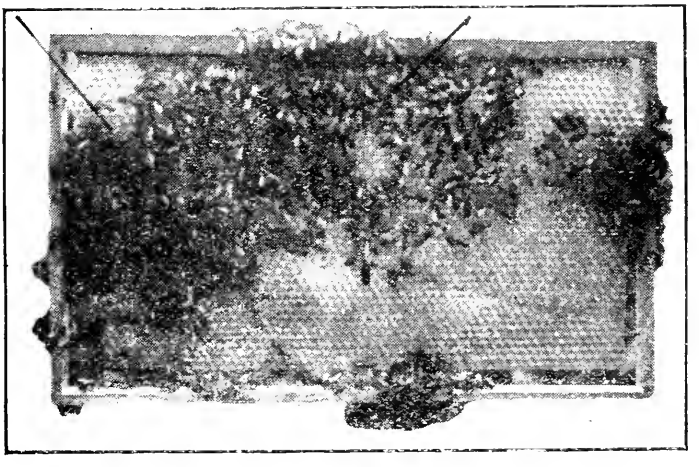
touch with the growers of this season's crop. or obtain seed for them if they prefer.

I understand the price this year will be as low as 15s. to 25s. per lb., and eight pounds are sufficient to plant one acre (English). With best wishes for the continued success of your splendid papers, which recall weekly many jolly times at home. — P. WILFRID CHAPMAN, Wykeham Ranch, Enderby. British Columbia.

July 30, 1921

Two Queens in One Hive.

[10525] Three combs of honey, brood, and bees were taken from the parent hive (Italian) on May 10, 1921. Italian queen successfully introduced. The nucleus was sold and moved on May 26. On June 19 stock was again examined, and two queens observed on one comb. On June 26 the stock was again examined, and the queens found on neighbouring combs: the queens were



placed on one comb and photographed (print enclosed). On July 17 the stock was again examined and the two queens were still in the hive. It was decided to build up another stock, using one of the queens. A hive was prepared on July 18, but on examination then, only one queen was found.—T. WADDHAMS.

Autumn Fruiting Raspberry.

[10526] In your issue of September 15 I note Mr. D. J. Hemming inquires where he can get autumn fruiting raspberries. Either King's Acre Nurseries, Hereford, or Messrs. Laxton Bros., of Bedford, can supply them. I grow the Hailsham berry, which is an autumn fruiting raspberry. I find that it is rather a weak grower, though, no doubt, would throw strong canes when it was well established. Another variety that is spoken highly of, although I have not tried it, is "November Abundance." Either of these varieties Mr. Hemming would be able to get of the nurserymen I have mentioned.—JOHN SMITH.

Bee-Keeping at Gretna.

[10527] I noticed an article by "J.C.A." on a visit to Mr. Ellis. This article has made me tear up one on Mr. Ellis's apiary, and convey it to the waste paper basket instead of to your paper. I have just two days ago arrived from a holiday at Gretna. I took the advantage of visiting Mr. Ellis, also one or two bee-keepers in the district, and can vouch for every word "J.C.A." says. He has little space, yet his love of the bee has made much use of it. It is in itself an education of thrift and ingenuity. It has brought the old proverb to my mind, "Necessity the Mother of Invention." You should try to get a photograph from Mr. Ellis of his apiary, but the difficulty would be to find a point to get a photograph that would do it justice. Mr. Ellis is all for new imported Italian queens. I will be very pleased to see more of his writings and experience in your Journal.

Gretna could keep more bees: much clover and no bees to collect the nectar. As I said, I took the opportunity of visiting one or two other bee-keepers in the district, and I saw no signs of the "I.O.W." disease. The only objectionable feature in my mind was the style of the hive, consisting of a house fixed to the ground with the loose body box inside with a door at the back entailing one having to get down on one's knees to enable one to take off or put on sections. To me they are more like meat safes. If they would adopt Mr. Ellis' plan of being able to work them from the top, which is the way of the modern hive, they would find it much more convenient.

A number of the bee-keepers are minus any book or magazine on the subject of bee-keeping, and I tried to impress the necessity of having a book for reference. I trust Mr. Ellis will also give us his experience of the amount of honey, both clover and heather, he takes off, for I can assure you it was a pleasure to see the flow of bees coming and going in this unique apiary.—A. AITKMAN BLAIR, 67, Gilmore Place, Edinburgh.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

A. P. (Lilbourne).—*Combs built together.*—Leave the combs as they are until spring, then as soon as it is possible to do anything cut out the combs not covered by the bees and close up with a division board. When the combs left are crowded with bees, place the old brood chamber with combs and bees on the top of another one filled with frames fitted with foundation, make the space behind the division board bee tight, and allow the bees to work down. When the bottom combs contain brood make certain the queen is on them, and place a queen excluder between the two boxes. In three weeks' time all the brood in the combs above it will have emerged and a super clearer may be put under the old combs, and when the bees are out they can be removed and dealt with. When it is decided to confine the queen to the lower combs, if a carbolic cloth is placed over the top box for five minutes or more she will probably be driven below.

H. O. K. (Congleton).—*Space under combs for winter.*—The bees will winter safely with the brood chamber raised, and in a W.B.C. hive a block of wood 1 in. or 1½ in. under each corner would serve the purpose all right. An "eke," as described on p. 46 of the "British Bee-keepers' Guide Book," would be more satisfactory. Raising the brood chamber for winter is not generally practised now.

Honey Sample.

D. C. (Ayrshire).—The honey is a heather mixture. Flavour is good, consistency fair, aroma very poor. This is spoilt probably by honey from ragwort.

Suspected Disease.

Miss I. B. M. D. (Ulverston).—The bees sent were suffering from Acarine disease.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d. up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

September 17 to 23.—British Bee-keepers' Association Annual Show at Grocers' Exhibition, Royal Agricultural Hall, Islington, London.—Schedules from Hon. Sec., B.B.K.A., 23, Bedford Street, Strand, London, W.C.2. **Entries closed.**

September 23 and 24 at Newport, Mon.—The Monmouthshire Bee-keepers' Association, in conjunction with the Newport Allotment Holders' Utility Show. Four classes open to all and four to members of the Association only.—Schedules from Robert Todd, Sudbrook, near Chepstow, Mon.

Saturday, September 24, 1921.—Staffordshire Bee-keepers' Association. The Autumn Exhibition of Honey, etc., will be held in the Technical Buildings, Stafford. Seven Classes for members only. Also for the best exhibit of honey in a metal comb, open to the world. Entrance fee 1s Prizes, £1, 10s., and 5s.—Schedules from the Secretary, W. Griffiths, Solway House, Silkmore, Stafford. **Entries close September 22.**

October 1, 1921 (Saturday).—Harrow Bee-keepers' Association, in conjunction with Harrow Horticultural Society, at Greenhill, Harrow. Class 42, Open to the United Kingdom, one section of honey, 1921. Prizes: 20s., 10s., 5s. Exhibits become the property of the above Association.—Particulars from J. L. Rogers, 289, Station Road, Harrow. **Entries close September 28.**

October 20 and 21.—Ayrshire Agricultural Association. Dairy Show, Agricultural Halls, Kilmarnock. 13 Classes. Liberal prize money.—Prize schedules from John Howie, Secretary, 58, Alloway Street, Ayr. **Entries close October 7.**

October 26 and 27.—Peterborough, Oundle and District Honey Show, in connection with Oundle Horticultural Show, held in Victoria Hall, Oundle. Gift Class: 1-lb. bottle of honey; no entry fee. Entries to be sold for Peterborough War Memorial Hospital Fund. 1st prize, value 50s.; 2nd, 10s. 6d.—Schedules from Mr. Sarjeant, Organising Secretary, Bank Chambers, Cathedral Gateway, Peterborough. **Entries close Oct. 21.**

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* "**Business**" *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 7s. per ¼in., or 12s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on MONDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

IRISH HONEY, finest extracted, £6 10s. per cwt.; sample 6d.; Sections, 20s. per dozen.—CRAWFORD, Apiaries, Castlederg, Co. Tyrone. r.t.90

TWO BLACK QUEENS, 3s. each; two Italian Queens, 5s.; healthy; 1921.—DAVIDSON, Forest Road, Burton-on-Trent. t.91

3 CWT. finest Hampshire Honey, £8 cwt., f.o.r.; 3 tins free.—DRAKE, Chilbolton, Stockbridge, Hants. t

EXCEPTIONALLY fine Buckinghamshire Honey, £8 per cwt., or 1s. 6d. per lb., in 28- and 56-lb. tins.—STEVENSON, Thames View, Flackwell Heath, Bucks. r.t.93

PURE LINCOLNSHIRE HONEY (28-lb. tins), £8 per cwt.—GEO. THOMPSON, Helpringham, Sleaford. t.94

FOR SALE, fine light granulated Honey in 28-lb. tins, price £8 per cwt., carriage paid.—J. H. ROPER, Thorpe-on-the-Hill, Lincoln. t.95

FINE NORFOLK HONEY, £8 per cwt., in 14-, 28-, 56-lb. tins.—ISAAC SOUTHERLAND, East View, Brancaster Staithe, Norfolk. t.97

CAN SPARE 60 STOCKS BEES, Italian and Hybrids, on 8 wired combs, with plenty natural food to winter, headed by young natural-raised Queens, price 65s. each, carriage paid; no disease in district.—EDWARD BAKER, Bee-keeper, Pickering, Yorks. t.96

MICROSCOPE (Binocular), worth £30, accessories, also six Stocks of Bees, W.B.C. Hives; best offers; going abroad.—WALTER BARBER, 44, Frant Road, Thornton Heath, Surrey. t.98

3½ CWT. Light Leicestershire Honey, £8 10s. per cwt., carriage paid; 28-lb. tins; sample 6d.—ERNEST HULL, North Street, Barrow-on-Soar. t.99

CABBAGE PLANTS, 2d. per score; Purple Foxgloves, 2d. per score; strong plants; six score post free.—HEMMING, Appleton, Warrington. t.100

QUEENS.—Two 1921 Carniolans, mated Dutch, 8s. 6d. each.—J. MOORE, Bleasby, Notts. t.101

APPLIANCES.—Three Section Racks, complete foundation, etc., four empty, and 30 Tin Dividers, all part used, healthy, and 70 new Sections, lot 25s.—BUTCHER, Glasbury, Hereford. t.102

300 FINE light-coloured Sections, 24s. per dozen; extracted, 1s. 5d. lb.; sample 6d.—SIMCOX, 17, Victoria Road, Fallings Park, Wolverhampton. t.111

1921 PULLETS, six White Leghorns (Cam's), six Black Leghorns (Barr's), £4 10s.—105, Brunswick Park Road, Wednesbury t.110

BEE EXPERT, with over 20 years' experience, wishes situation, or might enter into partnership.—Apply, Box 39, B.B.J. Office, 23, Bedford Street, Strand, W.C.1. r.t.112

ITALIAN HYBRIDS, healthy stocks, 8 frames, £3 10s., carriage paid; box 10s., returnable.—MRS. "S.," Middleton House, Pickering. t.113

A PERFECT GEARED EXTRACTOR for two combs, with tap complete, 50s., or part exchange for honey.—JELLINGS, 8, Stoke Green, Coventry. t.117

MR. GREEN, being ill, wishes to dispose of Stocks of Dutch Italian and Italian Hybrids, 65s. stock; plenty stores; carriage paid.—Basildon Road, Laindon, Essex. t.118

BERKSHIRE HONEY, in 28-lb. tins, 1s. 6d. per lb.; tins and carriage free; smaller quantities if desired.—DR. BELL, Lambourn, Berks. t.41

PURE light Cambridge Honey (guaranteed), 13-lb. tins 18s. 6d., 28-lb. tins 39s. 6d.; sample 4d.—YOUNG, 42, James Street, Cambridge. r.t.54

FINEST SAINFOIN HONEY, excellent flavour, £6 15s. per cwt., carriage paid.—HOGAN, Boxford, Suffolk. r.t.56

DRIVEN BEES.—Wanted, several healthy lots. State quantity and price per lb.—GWYNN, Coningsby, Malvern. r.t.59

PRIZE WHITE CLOVER AND SAINFOIN HONEY, £8 cwt., or 1s. 6d. lb., in 14-28-lb tins; lb. bottles 24s. dozen; Sections, 24s. dozen; all on rail.—HALFORD, West Wratting, Cambs. r.t.57

BUSINESS ADVERTISEMENTS.
1½d. per word.

ITALIAN QUEENS by return, no waiting, satisfaction guaranteed, 8s. 6d. each.—PEARSON & GALE, Marlborough. t.115

HONEY.—Finest Australian, two 60-lb. tins, 58s.; one 60-lb. tin, 30s.; finest West Indian "Melta" Honey, two tins, about 60 lbs., 73s.; one tin, 56 lbs., 40s.; four tins, each 7 lbs., 24s.; carriage paid 100 miles. Immediate delivery.—LONDON TRADING AGENCY, 32, St. Mary Axe, E.C.3. t.119

ARE YOU ABLE to supply all your customers? If not, send 1s. for samples of Honey as good or better than you own at half the price. Screw-top Honey Bottles, best quality white flint glass, 1 lb., 4s. dozen, 42s. gross; ½ lb., 3s. dozen, 32s. gross.—COBB, 33, Bevan Road, Plumstead. t.107

BOWEN'S COTSWOLD BEE CANDY, incomparable quality, 7 lbs., 8s. 6d.; 10 lbs., 11s. 6d. —BOWEN, Bee Specialist, Cheltenham. t.103

FIRST-CLASS HONEY TINS, 7-lb., 14-lb., 28-lb. sizes, price 1s. 2d., 1s. 8d., 2s. each; carriage extra.—BOWEN. t.104

NOTED COTSWOLD HONEY.—Private buyers should inquire for bulk prices.—BOWEN. t.105

BUY FROM A PRACTICAL BREEDER.—Cotswold Queens, with novel introducing cage, 10s. 6d.; exceptional value.—BOWEN. t.106

IT'S IN THE CANDY.—Flavine—S Bee Candy, made in Cambridge and the wrappers bear our name, price 10s. per 6-lb. parcel, postage paid. —S. H. SMITH, 30, Maid's Causeway, Cambridge. t.108

THE ACARINE 1921 ECLIPSE PAD is worth 5s., but so you may test it we will forward one for the cost of postage and wrapping, 6d.—S. H. SMITH, 30, Maid's Causeway, Cambridge. t.109

NOW IS THE TIME TO RE-QUEEN.—Italian Queens, by return, 8s. 6d. each.—PEARSON & GALE, Marlborough. t.114

HONEY, 6d. per lb.—Finest Australian 60-lb. tins, carriage paid 200 miles, 30s.—HERBERT & CO., 28, Southwark Street, London. Established 50 years. s.t.73

QUEENS, 7s. 6d., six for 42s.; Colonies, 85s., 65s.; plus carriage; prompt; pure Italians.—ATKINSON, Fakenham. r.t.61

YOU wouldn't "swop" a Masheath for any two other hives. r.t.62

MASHEATH (REGD.) HIVE, the hive of the day. Direct only from the originator and maker. Price List.—ATKINSON, Fakenham. r.t.63

CHAMPION CROCUS BULBS.—Plant now; invaluable for early pollen; yellow, 5s. 9d., 6s. 9d., 7s. 9d. per 100; mixed, 4s. 9d.; post free.—Litman, Castle Cary. r.t.25

REPLACE your failing queens now with our young, vigorous Italians, 8s. 6d. each; every Queen guaranteed.—PEARSON & GALE, Marlborough. t.116

QUEENS, QUEENS.—Guaranteed genuine Penna Italians, bred and mated in Italy. I can supply these excellent Queens by return; gentle, prolific, and with a world-wide reputation, 8s. 6d. each; selected, 10s. 6d.—GOODARE, New Cross, Wednesfield.

A BEE-KEEPER'S BARGAIN.—Boxes for making hives. Five boxes sufficient for two hives. Can also be easily converted into such useful articles as section and honey crates, corn bins, apple racks, seed potato trays, hen coops, brooders, tool chests, etc. Corners all dovetailed and strengthened with brass twisted nails, all ⅞ boards, tongued, grooved joints, and thoroughly seasoned. Size, inside measurements, 20½ in. long, 17 in. wide, 12 in. deep; put on rail for 1s. 6d each, £6 10s. per 100. I have also 500 same length and width as above, but only 9 in. deep, in new condition. Sides and ends of one-piece boards same price. All boxes complete with lids.—J. MITCHELL, "Elderslie," Branksome Avenue, Stanford-le-Hope, Essex. r.t.55

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

FINEST ENGLISH HONEY, in 28-lb. cans, 1s. 6d. per lb.; cans and carriage free.—PEARSON & GALE, Marlborough. r.14

"WIGHT" DISEASE.—Prevention and removal. Invaluable advice, 5s. 6d. "An eye-opener."—ALF. RYALL, Whiteway Apiary, near Camp, Stroud. r.n.169

EXCEPTIONAL OFFER.—*Adminson's Breeder Hive*, fitted with ten standard aluminium semi-combs, costs £4 2s., carriage forward. Worth double this price.—For Adminson's Hives and Appliances write to JAMES LEE & SON, LTD., Uxbridge. r.n.23

Ayrshire Agricultural Association

SIXTY-SEVENTH ANNUAL SHOW

Of DAIRY and FARM PRODUCE also BUTTER-MAKING COMPETITION,

At KILMARNOCK, 20th and 21st OCTOBER, 1921

Special Competitions for POTATOES, VEGETABLES,

FRUIT and HONEY,

Also ALLOTMENT HOLDERS' CLASSES and HOME BAKING COMPETITIONS.

Total Premiums - £500

Entries Close Friday, October 7. Premium Lists on application to JOHN HOWIE, Sec., 58, Alloway St., Ayr.

The products of the Apiary, of Poultry and Farm Stock, of the Fruit and Vegetable Garden can be Advertised and Sold through

THE

BAZAAR, EXCHANGE & MART

Newspaper.

Get a Copy—Thursday and Saturday 3d. The "Bazaar" publishes also practical handbooks by experts. Send for full catalogue, post free from—WINDSOR HOUSE, Breams Buildings, LONDON, E.C.2.

Advertisement Rates.

British Bee Journal or *Bee-keepers' Record.*

	£	s.	d.
Full page	4	10	0
Half page	2	16	0
One-third page	2	0	0
Quarter page	1	15	0
1½ in. across page	1	10	0
1 in. across page	1	0	0
½ in. across page	0	12	0
1½ in. single column	0	17	0
1 in. single column	0	12	0
½ in single column	0	7	0

Discount for a series of consecutive displayed advertisements:—Six insertions, 2½ per cent.; Twelve insertions, 5 per cent.; Twenty-six, 15 per cent.; Fifty-two, 30 per cent.

Books for Bee-keepers

NOW IN STOCK.

Cash in full must be sent with order.

		Postage
A.B.C. and X.Y.Z. of Bee Culture	17/-	1/-
A Book About the Bees (MACE)	4/-	4d.
Advanced Bee Culture (HUTCHINSON)	6/-	1/-
American Honey Plants (PELLETT)	14/6	9d.
Answers to a Thousand Questions (DR. MILLER)	6/-	5d.
Bee-keeping (PHILLIPS)	17/-	6d.
Bees and Bee-keeping (CHESHIRE) Vol. I. ...	12/6	9d.
Vol. II. ...	15/-	1/-
Beginner's Bee Book (PELLETT)	5/-	4d.
BEE-KEEPING SIMPLIFIED FOR THE COTTAGER AND SMALLHOLDER (W. HERROD-HEMPSALL, F.E.S.)	1/-	2d.
BRITISH BEE-KEEPERS' GUIDE BOOK (T. W. COWAN) Paper covers	2/6	3d.
Cloth covers	3/9	4d.
Dissectible Model of Queen Bee	4/6	3d.
FERTILISATION OF FRUIT BLOSSOMS BY BEES (T. W. COWAN)	-/3	1d.
Fifty Years Among the Bees (DR. MILLER)	9/-	6d.
First Lessons in Bee-keeping (DADANT)	6/-	4d.
How to Keep Bees (ANNA B. COMSTOCK)	11/6	4½d.
Langstroth's Hive and Honey Bee. Revised by DADANT ...	14/6	1/-
Life of the Bee (MAETERLINCK) ...	5/-	4d.
Mysteries of Bee-keeping Explained (QUINBY)	9/-	9d.
Management of Out Apiaries (DOOLITTLE)	2/6	3d.
Pollination of Fruit in relation to Commercial Fruit Growing (C. H. HOOPER, F.R.H.S.) ...	-/6	1d.
Practical Queen Rearing (PELLETT)	6/-	3d.
Prevention of Swarming (WILKES)	1/-	2d.
PRODUCING, PREPARING, EXHIBITING AND JUDGING BEE PRODUCE (W. HERROD-HEMPSALL, F.E.S.) ...	2/-	3d.
Productive Bee-keeping (PELLETT)	10/6	1/-
Queen Rearing in England F. W. L. SLADEN)	1/6	3d.
Scientific Queen Rearing (DOOLITTLE)	3/6	3d.
The Bee Master of Warrilow (TICKNER EDWARDES)	7/6	4½d.
The Life of the Bee (MAETERLINCK)	5/-	4d.
The Lore of the Honey Bee (TICKNER EDWARDES)	2/-	3d.
The "Townsend" Bee Book	2/6	3d.
WAX CRAFT (T. W. COWAN) ...	2/-	3d.

British Bee Journal & Record Office,

23, BEDFORD STREET, STRAND, W.C.2.

GORDON ROWE, 28a, Moy Road, Cardiff, SELLS all kinds and grades Honeys and pure Beeswax; samples 1s. each; terms, cash. Can supply Honey Parchments, stamped "Pure Honey," 2 lbs., 14s.; 1 lb., 9s. 6d.; ½ lb., 7s. per 100; 500 lots carriage paid.

"THE APIS CLUB."—If you have a live interest in bee culture as a science and a craft, you should join THE APIS CLUB. Membership fee, 10s. 6d. per annum, and includes the free delivery of "THE BEE WORLD" as published.—For advantages of membership write to the Secretary, THE APIS CLUB, Benson, Oxon. r.o.37

Fertile Italian Queens. 8/6. Delivery by return. PEARSON & GALE, Marlborough.

Death of Mr. F. W. L. Sladen.

We were very sorry indeed to receive the following letter on Tuesday just as we were going to press:—

Central Experimental Farm,
Ottawa,
September 12, 1921.

THE BRITISH BEE JOURNAL,
23, Bedford Street,
Strand,
London, W. C.

GENTLEMEN,

It is with deepest regrets that I have to inform you of the death of Mr. F. W. L. Sladen, Dominion Apiarist, who was drowned at Duck Island on Saturday, September 10. Mr. Sladen was at the Island carrying on special research work in bee-breeding.

Yours very truly,
C. B. GOODERHAM,
Apiarist.

Feeding Sugar to Obtain Surplus.

When movable comb hives began to come into general use, and the beautiful light-coloured and clear honey obtained from them was exhibited at shows and in the shop windows of grocers and other tradesmen, it was no uncommon thing to hear a bee-keeper of the old school, accustomed to the thick honey, charged with pollen and other matter foreign to pure honey, declare that the light-coloured stuff was only sugar and water. Even those who should have known different said the same. We once heard an attendant at a stand of up-to-date appliances at a show say he could produce honey as light and clear as some on the show bench if he had plenty of sugar and water.

"There is no smoke without fire," and occasionally unscrupulous bee-keepers have in times past tried to obtain run and comb honey (?), especially the latter, for show purposes, by feeding sugar syrup to the bees. This substitute, however, never imposed on a judge who knew his work. We believe this malpractice is never attempted now; in fact, many bee-keepers are almost afraid to feed their bees, even when it is needed, during the summer, for fear the syrup should be stored in the supers.

Judging from the following letter, it appears some people, who apparently know nothing of bee-keeping, still harbour the notion that bees are fed in order that the bee-keeper may obtain surplus. The letter was sent by a reader in Lancashire, and is as follows:—

"I am a regular reader of your BEE JOURNAL, a member of the Lancs. B.K.A., and have been interested in the craft for thirty-two years. During that time I have, in a quiet way, helped to start a lot of bee-keepers. I am an apiarist for a lady of good position, and am instructing another lady who intends to start next year. One lady went into a high-class grocer's shop and asked the price of sections, and was told 3s. 6d. per section. When she said that was rather expensive, they told her that her own honey was not so good as that, as *she fed her bees and the man from whom they bought the honey did not.* [The italics are ours. —EDS.] The lady came to me for an explanation. I feed my bees in the ordinary way for wintering, and for spring stimulation in order to build them up. I am not in a good honey district, but this year started with three hives, finished the season with five, and have taken 1¾ cwt. of honey, the bees having to draw out all the comb in shallow frames and sections. I had 80 sections, 70 of which were good ones, and the rest was extracted honey.

"Now, both ladies are readers of THE BRITISH BEE JOURNAL, and I should be very glad if you could find a little space for a word or two about feeding bees and pure honey to convince them I am right. I feed one week in April for spring stimulation and for autumn feeding one week in September. When packing for winter I put on candy. The best year for honey I ever had was 1911, when I took off 74 lb. extracted honey from one hive, 60 from another, and 42 and 36 sections from two others. I had two swarms, so increased to six stocks.—W. FRYER, Yealand Redmayne."

Needless to say, feeding to the extent given in the above letter will not have the slightest effect on the quality of the honey stored in the supers.

One plan that is still followed by some bee-keepers we do not favour; that is, to extract as much honey as possible from the brood combs and feed back sugar syrup in place of it. In our opinion this is only justifiable when adopted as treatment for disease, and medicated syrup is fed to the bees. Honey extracted from the brood combs is usually of inferior quality to that from the clean combs in supers that are used only for honey, and which is therefore not contaminated by contact with the cocoons, discarded skins, and other matter from the brood, and is not overloaded with pollen. This prac-

tice is not good for the bees, for experience has proved that though they may winter as well, sometimes even better, on sugar syrup as on honey, the colonies do not build up nearly so well in the spring, and, in fact, instead of increasing they usually dwindle, and lose then far more than they could possibly gain during the winter.

A Dorset Yarn.

What a lot of stray swarms were moving from place to place in May and June! Bees must be doubling in numbers each year. At the Blandford Agricultural Show, young Farmer Old told me that seven swarms came and took possession of his hives; it shows that it is always wise to have extra hives with foundation arranged in the swarming season. One writer asks: "Is it playing the game?" Bees always have done this, it is a natural way of increase; they go from place to place until they find one suitable for them. Some of these may be from other bee-keepers' stocks, many are from the wild bees in the trees; Italians are wild in different parts of Hampshire.

I was staying in the Meon Valley area a few years since. There was a very strong lot in a hollow tree, with an entrance below the ground level; the entrance looked as if it was once used by rabbits. This is close to the old mills, near Litchfield. This lot has sent out several swarms each year. The friends where I was staying have had three of them this season; they keep fairly true to the colour. The year that I was there the people thought them wasps, they were so yellow. This is the fourth year in the same place; they must be in quarters suitable for bees, yet if it snowed in winter they would be covered up, and some of the moisture must run into the entrance. The soil absorbs the moisture beneath them, but how far they are up in the bole of the tree no one knows; but it shows that if three swarms were given out this season how bees will increase if left to themselves.

There must be many such in the great woods and forests. The three swarms of this year were in boxes side by side; the two first started robbing the third, so my friend clayed up the entrance, making one hole through it with a pencil, so that only one bee could get out or in at one time, and that one not level with the floor-board, but as high as his cut entrance would allow. He said "they got tired of trying." This is the first year that we have missed having some come, though there are some in trees and houses quite close. It is easy to see from our own stocks when a swarm has left in our absence; the glass cover shows the absence of many bees from the tops of sections and bars, though they are sure to form a cluster not far from the hives. If not at once shaken into a skep they will not stay there, but will fly off quite a long distance at the next flight, and even will fly out of the skep within an hour if they have found out a future home they would like to inhabit. I have had them leave the skep in that time and fly away off to the roof of a chapel, where bees have had a home many years, but had died out when the disease swept through Dorset. This happened one Empire Day, when I was talking to the schoolchildren of Empire, how the old colonists had left this country to colonise the world; how they left a land of plenty, left their homes and parents for other lands across the seas, when over our heads went the great swarm of black bees, in their circular movements towards the roof of the chapel (there was an instance of colonisation).

We tie them in the skep now, and, to run no risks, we keep a thin piece of bagging, such as onions are sent in from Spain and Egypt, which gives them plenty of air. A friend who lives close to the farm had a great swarm when he was at the morning service. I had been to the choral service an hour earlier, so hived them for him, and tied them in. He left them till Monday evening to put into a bar hive, but they all went off the next day when he was at the hay harvest. These swarms will travel for miles when once they get high up in the air. We live on the hill; the land falls rapidly down to the river level, and as bees are away above all tree tops, they go to the great woods of Kingston Lacey.

The helpers on this estate tell of the wild bees in these woods, but the owner does not care for outsiders to go into them. Each year they must increase; the swarms must go farther away to colonise, and they will go where food is plentiful. If they do not find a home in the trees of the forest, they take possession of our empty hives. No one would keep a lot that came direct from a neighbour's apiary—*that* would not be "playing the game"—but these migrant swarms, they would be probably seeking a home, after days of searching, getting smaller in numbers at each halt. Last season there was one that was going each day round this village, until it reached our farm. A sorry lot they looked, wings frayed at the edges, their little carcases shiny, like a lot of very old bees, but they came through the winter and did well.

Our bees now often give off the robbers' song. We have some that had not much stores in the brood chamber, so we had given them a comb or two from other hives. We moved it one warm afternoon, and the other bees at once wanted to rob the stock where we placed them; even after the entrance was reduced to one bee-way, they tried to get in. Glass in front did not stop them, an Izal cloth along the front kept them at bay; then they tried to get in at the back. I put some smouldering bag which gave a lot of smoke, so that the wind carried the smoke towards the hive, and this soon stopped the robbers' song. The next day it was forgotten—or they remembered the smoke. We attended to the others when bees were mostly at home; if they are active, they soon scent the combs being moved into other hives. The Italians seem the most ready to rob; they sing the robbers' song in B sharp, with plenty of

"animato,' to use a musical term. It shows that weak stocks should be carried a long distance away from strong hives; should be taken away where there are late stores to be gathered.—J. J. KETTLE.

Jottings from Huntingdonshire

It was an interesting and educating sight, the honey staged at the Grocers' Exhibition. Run honey of every shade, from water-white to mahogany. It is the first time I have seen water-white honey carry off a prize, and I should dearly like to know the source of that which gained a prize card at the exhibition. The density, but not the colour, suggested charlock, while the colour, not the density, suggested the lightest of clover honey —was it gathered from some ever-green holly, for instance? Will the exhibitor let us know? The sections were very beautiful, the appliances, too, were up to a good standard considering the times; but the whole exhibition, delightful though it was, made one sad. How one wished it were possible to have a bee-keepers' exhibition all on its own, as it were. Could not the numerous bee-keepers associations have filled the whole hall with honey if they made up their minds to do it? Failing which, could we not have managed to fill one of the lesser halls leading off the great Agricultural Hall? Being tucked away on a portion of one of the galleries is not conducive to widening interest, and it is sadder still to learn that all the exhibits had to be caged in because of — hold your breath — thieves.

[Even then, some of the honey was stolen —EDS.]

Some day all London must know there is a British Bee-keepers' Association, and all England taught to value honey as a food and a delicacy. In the Quality Street of the Grocers' Exhibition, wonderful marmalade was cleverly displayed, while electric-lights glowed behind the glass jars, which gave the preserve so bewitching a look that one felt one must order that particular brand of marmalade forthwith. Now then, ye honey gatherers, what do you say?

During the past week I have been experimenting, taking almost a mad risk, in feeding bees. So far, my experiment has been most interesting, so much so, that I hope to repeat next year. The great thing at this season of the year is to get thousands of young bees, to do this queens must be cajoled into laying. Feeding over the brood nest is one way of doing this, but when one gets very warm days and bees are anxious to be out, this method of feeding is not always as successful as one would wish. I determined to try outside feeding well away from the hives. I commenced by placing a plate of syrup in a certain place, and another plate some distance away, and so on, covering each plate with twigs for the bees to rest on while taking up the syrup. I went to a Dutch stock, caught a bee, brought her to the first plate, she gorged herself, and then went off to spread the news. How she instructed her sisters I cannot say, but in less time than it would take her to disgorge her fill, eleven more Dutch ladies arrived and began to drink away. The first bee coming back shortly after with twenty or so more. A few wasps were on the second and third plates, but not a single bee. I now went to a hive of Italians, caught one of the sentinels and placed her on the second plate, she refused to stop. I caught two more, they, too, proved independent. I gathered from this that sentinels are not excused during their time of guarding to go nectar gathering, so waited to catch a foraging bee. One soon came along, her legs covered with ivy pollen, catching her, I placed her on plate two. She did not gorge herself as my Dutch lady did, but took a few sips and flew off to announce her find. She sent only two bees to the plate, but when she herself returned she had seven companions; these, in turn, soon brought numbers more, and within half-an-hour the Dutch bees were fast clearing up the syrup on plate one, while the Italians were busy with plate two. Occasionally a stray bee from another hive would drop into the feast, but never went away, being slain on the spot. I tried the golden banded Italians on plate three, but they were above gathering sweets in this way. Although I ultimately caught eight and placed them on the plate, they all refused to stay. I next tried the Holmewoods: they were as eager as the Dutch, and it was a wonderful sight to see each type of bee keeping to their own plate. I have been feeding some six stocks in this way, and in each case the queen has been stimulated and honey stored. There has been no robbing or signs of it. Up to the present I am not disappointed with my experiment and am continuing it as long as this heat wave lasts, and hope to have more to say next week.

On Wednesday, the 21st, I had a swarm—Dutch, of course, so late in the season—and a large one. I intended to return to the parent stock, but, on looking there, I found crowds of bees and large patches of brood, so there's nothing better to be done than hiving them on frames of comb stolen from the strongest stocks. Those good people who attended a demonstration here will recall the parent stock when I explain that it was the hive which a blacksmith made, the bees, originally a cast shot from a tree branch, were placed in the makeshift hive to do their best, and they did it. The cakes of brood on August 10 being such as to call forth many exclamations. Fortunately, my drone breeder Italian queen has not been destroyed, and I have several drones about so the virgin queen will not lack for mates, although of a different colour. Wonderful bees these Dutch!—E. F. HEMMING, Steeple Gidding.

Jottings.

Bee Mistakes, page 382.—While appreciating our Editors' footnote and broad experience, I should like to mention I remember at least one case where the colony had not swarmed, and I nearly chose one of these queen cells to leave, when making an artificial swarm: in another, the operation was repeated at the time of swarming, and this may have contained a queen, but I failed to

find her. I myself have not seen a worker imprisoned, but have heard of it. *Re* your correspondent's letter, page 420. His swarm may have contained a virgin queen, which may have met one of the ends described in our Editors' footnote. It seems impossible the bee in question could have been alive in the cell two months, and was probably drawn out when the capping was removed. Are you quite sure there was not an unfertile queen in occupation?

I was reading in a contemporary, from a prominent bee-keeper, that bees do not "hatch"; they "emerge." I have looked up "hatch" and find it defined as "producing young" from "eggs." I therefore suggest they hatch, but emerge at some future date from an "emergency exit." Can we have other opinions? While if the lid gets pushed back this should be called the "hatch-way."

A Swarm in a Jam Pot.—I was in serious demand the other day to take a swarm which had invaded the precincts of a kitchen and larder, and had finally taken possession of a jam pot. If I would only catch the queen they could be got rid of, as it was too late to keep them, as they had nearly all died. I was rather astounded to find a medley of wasps and bees suffocated in a 2-lb. jar, which had contained, I was told, a little strawberry jam. This should be catalogued as "most amusing" if somewhat annoying.

This recalls the old controversy *re* yellow thieves: they were mostly Italian, but I have not known them so troublesome as that before. I was also called to see a great number in a shop, sampling biscuits and preserved fruits and such-like sweet items. I suppose it is the long summer, devoid of late and natural food, the outside moisture, and small granaries, which makes the bees seek fresh fields and pastures new.

Care of the Extractor.—It will be found much easier to clean the cage parts if the bolts are removed, and it is cleaned over a large bath. The spindle can rest on the sides, like a miniature water-wheel, and plenty of hot water saves many a cut, which often ensues when trying to do this messy job in the cylinder. The whole is then dried and well vaselined. I paint the bottom outside.—A. H. Hamshar.

Bee-Keeping Notes.

The hive bee, usually alluded to as a perfect example of industry—an ideal so high as to be a fit pattern for all good human beings to copy—is not by any means as honest as she is usually supposed to be. She is by nature a thief and a great fighter, although she is not always to be blamed for having assumed this bad habit. The unsuspecting bee-keeper can easily cause them to develop this undesirable habit by carelessly allowing combs containing honey to be exposed, a temptation which she cannot resist. These easily-secured sweets will arouse their bad nature, and they will seek plunder wherever it can be got, whether it be from a stock weakened by disease or from an otherwise weak stock, even although it may mean a desperate fight to get it. Virgil, 2,000 years ago, noticed this evil habit, but wrongly attributed it to a special kind of bee, which, he says, sallied forth from the hive in great numbers, headed by the king and chiefs, intent on killing and plundering the stores of a neighbouring colony that was of a more peaceable nature. With our present knowledge, we know that every colony is more or less disposed to develop the habit of robbing. Every hive has scout bees that are always in search of food, and if this is not available from the flowers of the fields, they will then scrutinise every hive in the neighbourhood, and, having found an unguarded entrance or listless colony, they will return and report to their own comrades. The army of invaders will then go forth and pounce on the unsuspecting hive in great force. If the occupants show fight, then a great battle follows, in which there will be thousands of casualties. Sometimes the invaders return defeated, but in most cases they, in a little time, subdue the inhabitants of the attacked colony to such an extent that they will join the robbers, and assist them to carry away all their honey to the robbers' home.

At this time of the year very little food can be got from the flowers, and it is the bee-keepers' duty to avoid disasters such as described above by closing the entrances to about half an inch wide, according to the strength of the stock. Small entrances can be more safely guarded by a few bees than large ones, and if an attack occurs, the bees inside the hive have a greater chance to defend their home and stores.

If fighting is seen to be going on, a good method is to rear a piece of plain glass, about 4 in. square, in front of the entrance, so that the bees belonging to the colony can go round each side to the entrance, whilst the robbers, seeing the entrance proper, will dash up against the glass in a vain endeavour to get in, and eventually they will give it up in disgust. Spraying the entrance with a solution of Izal and water is usually effective in driving away the robbers in a weak attack, but if the robbing and fighting is well advanced, other means must be adopted to deal with it. The entrance must be closed altogether for a day and opened again at night, or heaps of grass, straw, and hedge clippings may be placed over the entrance, which will sometimes dispel the attackers. If the robbers and robbed are all in the same garden, the best plan is to change the places of the two hives, placing the robbed on the stand of the robbers, and *vice-versa*. Old veteran robbers can easily be recognised by their appearance, for they bear the marks and scars of many battles. The fact is that they have been in so many battles and tussles with other bees that all the hairy covering of the body has been torn and rubbed off, so that only the black shiny exterior of the body can be seen, and this makes them quite conspicuous from the other bees. The worst evil of their natural propensity of thieving is that diseased stocks are easily robbed out, and the robbers take home the spores of disease in the stolen

honey, and eventually they pay the penalty and become diseased likewise, to become a prey for other stocks to rob out. Therefore, those bee-keepers who wish to prevent this evil commencing will reduce the size of their entrances at once, and keep them so for at least another month. Prevention is far better than any cure. J. P.

The New Annual Sweet Clover.

Some account, in detail, of preliminary experiments made here with the new annual sweet clover, which has begun to create a stir in the States as a bee plant and as a forage plant for cattle, will, no doubt, be of interest to many bee-keepers in this country.

By the kindness of Mr. A. I. Root, of A I. Root and Co., Medina, Ohio, I was supplied in November last with a small quantity of the seed of the plant for experimental purposes. These seeds I distributed amongst fifteen people, some skilled in agriculture or horticulture and some unskilled, mostly near here (South-East Devon), a few seeds to each. Several have plants, and I myself have one, from a late sowing. Quite recently I have seen the plants in some of the places; they are mostly six, seven and eight feet high, carrying an abundance of seed and still flowering. No special treatment has been given to them excepting that the seeds, being scarce, were germinated under some kind of cover and the plants planted out in gardens. They were planted in gardens partly because they were few, but also because nothing was known here then as to any natural enemies the plant might have; it has since been stated that the plant is not subject to pests or enemies of any kind so far as experience has shown. In one of the cases no water was given after transplanting, and the tallest plant there is eight feet high and more than four feet through—quite a big bush. In another of the cases measurements taken by me show that during part of July and August a plant extended upwards 40½ inches in 34 days. My own plant, being late, is only 4 feet 3 inches (September 21), but it is growing rapidly and flourishing healthily, notwithstanding cold nights, and in bloom.

Previously very little of the seed seems to have been available, but I understand that quantities have been grown this year and will be obtainable. So far as I can learn, the plants from the seed sent to me by Mr. Root are the first which have been grown in this country; the results are not only promising and hopeful, but somewhat astonishing.

This clover is an annual, though at present not definitely differentiated in name from *Melilotus alba*, which, I understand, is a biennial and does not grow as tall. It is not only an annual, but will probably, by reason of its very rapid growth, give two crops in the same year, one, say, in June and one later, from the one sowing. The root is said to be about two feet long. I have not yet measured (nor seen) a root, but it seems clear from the experiments here that the plant is a drought resister. The plant is also said to be a good re-invigorator, or refresher, or revivifier of the soil, and to be frost-proof. Bees like it, and there are thousands of little blooms on the many dozens of sprays on each plant for them to extract nectar from.

Later on I hope to be able to gather further particulars and to give the readers of the "B.B.J." the benefit of what can be learnt. I am in communication with the Board of Agriculture and with certain other authorities on the subject. J. L. B.

Bee Notes from Derbyshire.

By Tom Sleight.

Saturday, September 10.—I think we can put paid to honey gathering on the heather for this year; in fact, the bees did this a fortnight ago, so far as putting honey in sections was concerned. The best stock, which was fed solid before it went, has not filled one section rack. I have not taken it off yet, but I could only see about sixteen sealed over a week ago, when I went and packed up ready for fetching away last Monday (September 5). The change to hot weather caused me to delay the removal another week. I saw the heather was over on Beeley Moor then, but as I journeyed to Rushley to see the other bees I passed a field of white clover, as white over as any I saw in June. I thought, "Well what a sight, and the 4th of September, too. What couldn't the bees do on that field in a few hot days! If it were to just come a hot week now, would it not be grand? Four hives of bees on Beeley Moor not a mile away; they would top those sections up quick." It would be about 5 p.m. then, and I had been about the moor all day. But I had no inkling that any change was coming up to then.

As I have wandered about the moor watching which flowers the bees worked, I have often come across blackberry bushes in out-of-the-way places, and I invariably mark them mentally with a T.S. for future reference. It was while picking some 3lb. off one bush on September 4, between 6 and 7 p.m., that I suddenly became aware there was a change of weather coming. The little breeze there had been died down, and the silence that came over was amazing; it caused me to look up and exclaim, "I am sure this is a change for fine weather."

A week later, after a hot week, I visited the same bush again—no one had ever been near it, and it was a sight to behold. Blackberries like niggers' heads, as one may say; it was a black sight. A London boy might well have exclaimed, "How dare you let them stay out all night?" From it and two more bushes near I picked a peck, and not a bad one among them. I reckon my bees played a great part in the maturing of that fruit. I put berry picking on one side and went to Rushley to see how my swarm has filled the heather sections up. They were, however, even worse than those at Beeley, so I left some partly filled clover sections on; they had sealed about ten over in the two racks, but I cannot see that they have got more than 10 or 12lb. of heather in the

partly filled ones. Out of 100 sections on four hives, I have less than twenty saleable.

September 16.—Since writing the above I have got my bees home and the honey off the hives. I find I shall have about two dozen sealed over out of the 100 put on four hives

Considering the grand summer we have had the honey crop from that May swarm at Rushley was a poor one. I shall not have more than 30lb. of honey. I got 27lb. of extracted from the other hive, and as it swarmed in July they have not got 6lb of heather in the bottom combs, so that means some sugar feeding when they get home. No. 1921 is a poor year compared with 1920 so far as heather is concerned. I reckon there is about a quarter what there was last year. The heath bloomed early, rain came too late, and when the hot week came in September it was over.

I made a journey one hot day to see if the bees were doing right on that clover field I lay in it awhile between 2 and 3 p.m., when the temperature was over 70 deg. The aroma was lovely, but it was "Tommy Humble's" harvest. I could honestly say there were ten "Tommies" on every square yard of that field, while every now and again a hive bee would come by, but judging by the looks of the hives on Beeley yesterday they got very little.

How beautiful the gorse looks up there now; it is a splendid sight in places, and what a quantity of that yellow hawkweed there is in the eddish fields, too. As I went into Keltsedge the other day, some fields made me think they were charlock, they were so yellow, but isn't the honey from it awful stuff! I tasted some once; but, oh, dear! it fair burns one's throat out I don't wonder at folks wanting no more honey if they taste that kind first time

(To be continued.)

British Bee-Keepers' Association.

ANNUAL SHOW.

The experiment of holding the annual show at the Grocers' Exhibition proved a successful one. The exhibits were more numerous and of a better quality than for a number of years past. The Royal Show is held too early in the year for the current season's produce to be exhibited, and unless bee-keepers retain some of their previous year's surplus for the purpose of exhibiting, the exhibits are, and have been from this cause, both few in number and poor in quality. This year the show was held at the *end* of the season, and the exhibits, therefore, comprised the cream of the season's products. We noticed also that many of the prize winners at local shows sent their exhibits; therefore there is no wonder that the judges, Messrs G. Bryden and C. L. M. Eales, had a difficult task in awarding the honours.

In the collection of appliances, Mr. R. Lee (successor to Jas. Lee & Son) maintained the high reputation of this firm in a splendid collection of appliances. Messrs. E. H. Taylor came a good second. The work turned out by them is improving, and we have no hesitation in saying that the exhibit was the best ever staged by this firm. Messrs. Steel & Brodie were beaten but not disgraced; the distance they had to come no doubt told against them a little in the number of articles they were able to put up.

In the single hive classes the exhibits were of a higher standard than for some years past. At the same time it is a pity that some of the manufacturers do not seem to realise that freak hives and American ideas will not take on in this country, but that British ideas, gained by years of experience, still reign supreme, and will continue to do so.

The extractor class was a good one, and Mr. W. P. Meadows upheld his old reputation for staging the best. Here, again, we are sorry to see time and money being wasted in trying to push an extractor of a form and method of working proved a failure thirty years ago.

The honey classes were well supported, but a notable feature was the disparity in numbers between the northern and southern counties, the entries from the latter being far in excess in number, as will be seen by the figures given in the list of awards. In sections, entries from the North numbered 5 against 20 from the South; light extracted, North 18, South 40; medium or dark, North 7, South 29; granulated, North 4, South 12. This may be brought about by an indifferent season in the North, lack of interest, or cost of carriage; in any case it is curious that in practically all classes the entries from the South were three times more than those from the North.

The W.B.C. Gold Medal was won by Master Maurice Herrod-Hempsall with a higher number of points, viz., 34, than have ever been obtained before. The previous winners were: 1914, J. Berry, 13 points; 1915, J. Pearman, 22 points; 1916, A. S. Dell, 11 points (that year J. Pearman had 25 points but could not take the medal as he had won it the previous year); 1917-1918, no show; 1919, G. Bryden, 23 points; 1920, J. Pearman, 20 points. It will also be noticed that the awards were won in the classes where the competition was strongest, i.e., the southern area.

It was also a pleasing feature that the show was visited by a large number of bee-keepers, the majority of whom, as usual, regretted that they had not entered in various classes, as their produce was miles ahead of those who had won prizes. We would strongly advise all these to make entries at the various shows and so make the exhibitions much more imposing, to the advantage of bee-keeping. They have no excuse for not so doing as they are so certain of a win, by which means they will obtain honour, cash prizes and a better price for their produce.

The awards were as follows:—

Class 1. — Collection of appliances; 4 entries: 1, R. Lee, Successor to Jas. Lee & Son, Uxbridge; 2, E. H. Taylor, Ltd., Welwyn; v.h.c., Steele & Brodie, Wormit, Fife.

Class 2.—Best and most complete frame hive for general use, unpainted: 5 entries:

1, R. Lee; 2, Steele & Brodie; v.h.c., E. H. Taylor, Ltd.

Class 3.—Most complete and inexpensive frame hive for cottager's use, unpainted, price to be stated; 5 entries: 1, R. Lee; 2, E. H. Taylor, Ltd.

Class 4.—Honey extractor, price not to be taken into account; 5 entries: 1, W. P. Meadows; 2, R. Lee.

Class 5.—Any appliance connected with bee-keeping, to which no prize has been awarded at a show of the British Bee-Keepers' Association; 16 entries: 1, Burgess & Son, Exeter; 2, E. H. Taylor, Ltd.; 3, W. P. Meadows.

HONEY.

Classes 6 to 9 confined to residents in Cheshire, Cumberland, Derbyshire, Durham, Herefordshire, Lancashire, Leicestershire, Lincolnshire, Monmouthshire, Northumberland, Nottinghamshire, Rutland, Shropshire, Staffordshire, Warwickshire, Westmorland, Worcestershire, Yorkshire, the Isle of Man, Ireland, Scotland, or Wales.

Class 6.—Six sections of comb honey, excluding heather honey, of current year; 5 entries: 1, G. Evans; 2, R. Robson; 3, G. Marshall.

Class 7.—Six jars of extracted light-coloured honey of current year; 18 entries: 1, W. C. House; 2, G. Marshall 3, J. Ward.

Class 8.—Six jars of extracted medium or dark-coloured honey, of any year, excluding heather honey; 7 entries: 1, Mrs. Morgan; 2 W. Trinder; 3, W. C. House

Class 9.—Six jars of granulated honey, excluding heather honey, of any year; 4 entries: 1, J. Berry; 2, J. Chadwick; 3, W. Trinder.

Classes 10 to 13 confined to residents in Bedfordshire, Berkshire, Bucks, Cambridgeshire, Cornwall, Devon, Dorset, Essex, Gloucestershire, Hampshire, Herts, Hunts, Isle of Wight, Kent, Middlesex, Norfolk, Northamptonshire, Oxfordshire, Somerset, Suffolk, Surrey, Sussex, or Wiltshire.

Class 10.—Six sections of comb honey, excluding heather honey, of current year; 20 entries: 1, Robson & Cessford, 2, Maurice Herrod-Hempsall; 3, J. Herrod-Hempsall.

Class 11.—Six jars of extracted light-coloured honey of current year 40 entries: 1 and bronze medal B.B.K.A., Maurice Herrod-Hempsall; 2, Miss E. C. Talbot; 3, G. A. Taylor.

Class 12.—Six jars of extracted medium or dark-coloured honey, of any year, excluding heather honey; 29 entries: 1, Maurice Herrod-Hempsall; 2, F. Bahns, 3, A. E Warren.

Class 13.—Six jars of granulated honey, excluding heather honey of any year; 12 entries: 1, Maurice Herrod-Hempsall; 2, W. J. Goodrich; 3, C. Robinson.

MISCELLANEOUS, OPEN CLASSES

Class 14.—Two shallow frames of comb honey, for extracting, gathered during 1921; 3 entries: 1, Maurice Herrod-Hempsall; 2, W. J. Goodrich; 3, Mrs. Griffith.

Class 15.—Six jars of heather honey, of any year; 8 entries: 1 Maurice Herrod-Hempsall; 2, D. Wilson; 3, Mrs Anderson.

Class 16.—Six jars of heather mixture extracted honey, of any year; 8 entries: 1, Mrs. Anderson; 2, Maurice Herrod-Hempsall; 3, J Berry.

Class 17.—Best and most attractive display of honey and honey products in any form, and of any year, staged on space not exceeding 4 ft. by 4 ft.: 1 entry: 1 and silver medal B.B.K.A., Maurice Herrod-Hempsall.

Class 18.—Exhibit of not less than 3 lbs. of beeswax, the produce of the exhibitor's apiary; extracted and cleaned by the exhibitor or his assistants. To be shown in shape, quality and package suitable for the retail trade; 9 entries: 1, F. Harris; 2, E. C. R. White; 3, J. Berry.

Class 19.—Honey vinegar, 1 quart; 4 entries: 1, Maurice Herrod-Hempsall; 2, J. Berry; 3, D. Wilson.

Class 20.—Mead, 1 quart; 4 entries: 1, Maurice Herrod-Hempsall; 2, Mrs. Scott, 3, J Berry.

Class 21.—Exhibit of an interesting nature connected with bee culture, not mentioned in the foregoing classes, including candy for bee feeding, articles of food, or medicine in which honey is an ingredient; 7 entries. 1, Maurice Herrod-Hempsall; 2, A. C. Tew 3, Steele & Brodie.

Class 22.—Exhibit of a scientific nature not mentioned in the foregoing classes, to which no prize has been awarded at a show of the British Bee-Keepers Association; 4 entries: 1, Maurice Herrod-Hempsall; 2, A. C. Tew.

MONTHLY MEETING OF COUNCIL.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, September 15, 1921.

Mr. W. F. Reid presided, and there were also present Miss M. D. Sillar, Messrs. G. Bryden, G. S. Faunch, G. W. Judge, G. J. Flashman, G. R. Alder, A. Richards, J. B. Lamb, C. L. M. Eales, J. Herrod-Hempsall. Association representatives:—E. J. Waldock, W. E. Hamlin (Surrey), R. R. Babbage (Middlesex), E. Tattersall Williams (N. Devon).

The minutes of the previous meeting were read and confirmed.

The Chairman referred to the loss of one of the oldest members of the Council by the death of Mr. A. G. Pugh, of Beeston, who had worked ungrudgingly for many years on behalf of bee-keeping. He was a man of sterling worth, perhaps not always understood on account of his rugged and abrupt manner. In all his dealings he was straightforward, incapable of a mean action, and his services and presence would be very much missed by his colleagues. A silent vote of condolence with the widow and family was passed, and the Hon. Secretary was instructed to write accordingly.

Letters of regret at inability to attend were read from Revs. T. Morley Davies and E. J. Bartleet, Messrs. T. W. Cowan, F. L. E. Watts, and A. L. C. Fell.

The following new members were elected: Miss A. B. Flower, Rev. Vaughan B. Morris, Messrs. D. R. Allen, W. L. Lordan, A. Hayes, W. O. Jones, and R. G. Everitt.

The report of the Finance Committee was presented by Mr. Bryden, who stated that

the receipts for July were £1 0s. 10d., and for August £13 18s. 6d. The bank balance on September 1 was £142 8s. 1d. Payments amounting to £57 12s. were recommended.

Reports on preliminary examinations were presented, and it was resolved to grant certificates to the following :—Mesdames M. Ord, B. Pond, H. S. Sheldon, S. Leighton, J. G. Barnes, E. M. Hart, D. W. Jones, Misses I. Windebank, A. B. Flower, W. Marsden, M. V. Holmes, M. Keen, L. Cumming, E. Anderson, J. Atkinson, E. Sessions, M. Barrett, A. Macmillan, J. Pocock, M. Bond, B. Burd, M. Macfarlane, F. Sadler, B. Clough, C. Elder, N. Atkinson, M. A. de Markievicz, M. Verster, T. J. de Kock, M. Morton, M. Butcher, S. A. Webb, D. de Caynoth Baker, D. A. Wilkinson, S. Crowe, M. G. Hinckley, M. J. Benson, G. Richards, E. M. Ralston, S. M. Hagman, M. A. Wessman, E. Morrice, E. A. Bristow, M. M. Hanson, M. E. Denney, S. Fillmer. L. R. M'Donnell, J. G. H. Pearsall, M. C. Beadle, A. M. Griffith, E. Ward, M. I. Shaw, E. H. O'Meard, E. de Son Taylor, M. N. Shine, E. M. Dunsford, J. Ainslie, N. F. Cannell, M. S. Douglas, D. N. Webb, O. G. Murgatroyd, E. Lowe, J. D. Watson, E. L. Terry, S. E. Griffiths, F. Wrench, E. A. Hinchley, A. Manley, V. M. Halsey, M. Little, E. Goodacre, H. Barnard. L. Anley, W. Freeman, G. L. Weaver, C. Charles, Revs. Evan Evans and Sangar-Davies, Dr. R. Ferguson, Squire A. W. Tomlinson. Messrs. A. E. Cornwell, G. A. Taylor, G. M. Searle, C. M. G. Winn, A. L. Woode, H. W. Scott, P. Beard, T. B. Lott, W. J. Hewett, W. B. Corbett, J. Spencer, H. Hall, H. W. T. Priddis, G. H. Moreland, T. Churchill, E. H. Garrett, J. J. Kettle, G. Dance, R. Duguid, A. Thornton, P. Ridge, A. Bash forth, C. M. Hansell, E. D. Davies, C. R. Aspin, S. L. Foster, W. E. H. Hodson, C. J. Hindle, T. H. Seckstone. S. Lewis, F. Vale, W. M. Sedgley, W. H. Channin, J. B. Ballantyne, J. Bouch, G. Griffiths, J. H. Smith, E. C. Hipkins, C. Stirzaker. G. W. Buttery, P. Shuttleworth, M. Cradock, W. J. Palmer, A. Curran, A. C. Shinn, E. V. A. Willett, L. J. Mersh, E. Wood, E. Nuttall, F. W. Cook, H. Tew, S. Hancock, J. Evans, W. Roadley, S. R. Fox, G. R. Bostock, C. J. Bond, T. Sparks, W. H. Woodsford, J. Bennett, A. Cook, W. West, E. E. Williams.

As Mr. Bartleet was unable to be present it was resolved that item No. 6 on the agenda should be postponed until the next meeting.

A letter was read from Mr. A. H. E. Wood, *re* the sale of section cases by appliance manufacturers, which were overlaced, and which had caused disqualifications at many shows. The Hon. Secretary was instructed to write the appliance manufacturers on the subject.

The matter of railway rates was raised, and it was resolved : " That the Hon. Secretary be instructed to apply to the proper authority representing the railway companies of the country, requesting them to receive a deputation from the British Bee-Keeper's Association in regard to the existing very high railway charges for conveying bees and honey."

Studley College applied for a preliminary examination, and the same was granted.

Next meeting of Council, October 20, 1921, at 23, Bedford St., Strand, London, W.C.2.

Ilford and District Bee-Keepers' Association.

(LOCAL BRANCH OF ESSEX BEE-KEEPERS' ASSOCIATION.)

On Saturday, September 17, the above Association held a display of honey, wax, appliances, etc., in the Public Hall, Seven Kings, in conjunction with the show of the Ilford Utility Poultry Society.

Great interest was displayed in the exhibits, and the stewards were kept busy from the opening to the close of the show answering questions, and giving information on bee-keeping. A feature which attracted attention was the staging of a fine lot of medium and light honey grouped with the addresses of the producers, many visitors being surprised that from such addresses such honey could be produced. All honey shown was the product of the members and gathered locally, and most apiaries are in back gardens inside the town. It caused many of the poultry-keepers present to ask why they also should not produce honey as well as eggs. — H. STROUD, Hon. Sec., Barley Lane, Ilford.

Sheffield and District Bee-Keepers' Association.

The annual exhibition of the above Association, was held in conjunction with the Sheffield Horticultural and Allotments' Association Exhibition, at Endcliffe Park, Sheffield, on the 8th, 9th, and 10th inst.

Mr. Herrod-Hempsall gave lectures on each day of the show, and also carried out the duties of judge of bee produce.

The following awards were made:—

Class I.—Six bottles of light extracted honey, 7 entries: 1st, W. Garwell; 2nd, A. Johnson; 3rd, P. Ridge.

Class II.—Six bottles of light granulated honey, 3 entries: 1st, W. Garwell.

Class III.—One jar of light extracted honey: 1st, W. Garwell; 2nd, P. Ridge.

Class IV.—Six jars of run heather honey, no entries.

Class V.—Twelve sections of comb honey : 1st, and silver medal, W. Garwell.

Class VI.—Six sections of heather honey: 1st, W. Garwell.

Class VII.—Two shallow combs of honey, no entries.

Class VIII.—Best display of comb and extracted honey and wax: 1st and the Association's gold medal, also the Allotment Exhibition's silver medal for meritorious exhibit, W. Garwell.

Class IX.—One pound cake of wax, 7 entries: 1st, W. Garwell; 2nd, P. Tyas; 3rd, P. Ridge.

(*Communicated.*)

Treating Foul Brood.

[10528] It is seldom that we ask for space in your Journal outside the advertisement columns, which we endeavour to make as interesting to your readers as the editorial matter itself, but the point raised by Mr. J. Gibson (10,523) in your last week's issue is of scientific importance to all bee-keepers.

Your correspondent had sprayed the foul brood at "intervals of three weeks," and found the disease still present. Notwithstanding this, we note with satisfaction that the bees are now covering eight combs, instead of three last June, so that the disease must have been very largely overcome. From the purely scientific aspect, with such long intervals of three weeks, the efficiency of Bacterol must be regarded as remarkable.

Foul brood is caused by a sporing micro-organism, which is very difficult to kill by disinfectants, because they cannot be used with sufficient strength to kill the spores without killing the grubs and bees. These organisms multiply very rapidly—many generations in twenty-four hours, and, consequently, if the spraying does not reach every spot in the cells, the organisms not killed by the Bacterol solution will continue to increase, and in the course of three weeks would reach big figures. That is why we have always recommended spraying a 5 per cent. solution of "General Bacterol" (4 tablespoonfuls to 1 quart of water) daily for three days. This is quite harmless to the brood, but absolutely fatal to the most resistant sporing organisms. —BACTEROL, LTD., Brookside Road, Highgate, September 26, 1921.

[The above letter shows the soundness of the advice we have consistently given, that in treating any disease one must have the remedial agent continually present to keep the micro-organisms in check, and eventually kill them all. There are bacteria that will multiply at the rate of thirty generations in twenty-four hours. We leave our readers, who are fond of mathematics to figure out how many the progeny of one bacillus left alive would number in twenty-four hours —if they can. The number at the end of three weeks will be beyond comprehension.—EDS.]

Onions and "I.O.W." Disease.

[10529] I should like to tell the readers of THE BEE JOURNAL some of my experiences this season. Owing to illness last autumn I was unable to feed my stocks up properly, and as this followed on such a disastrous season, I lost two during the winter, although there were several pounds of stores left in each hive. My remaining three stocks were very weak. I was dismayed to find one February morning that the best of these (some hybrids) had distinct signs of "Isle of Wight" disease, many crawlers with misplaced wings being seen during sunny periods. I obtained a large onion, and, without peeling it, placed it in a saucepan containing a pint of water, which I reduced by boiling to half a pint. I prepared some syrup, and added two tablespoonsful of the onion essence to a pound of the syrup. This I gave warm to the bees for three successive nights. Crawlers soon ceased. As soon as practicable I moved all bees and combs into a W.B.C. hive, which I had previously treated inside and out (including body box inside) with solignum. They appeared to thrive, and although tempted to re-queen, I did not, as I was anxious to see whether the cure was lasting. This hive has done splendidly, and although not at full strength until nearly the end of May, has given me over 1 cwt. of honey, and still has a "shallow" full over the body box, which I shall leave on for the winter.

I have been looking after some bees for a lady in the district this season. They had wintered splendidly and were very strong, so in the latter days of April I put a rack of sections on. One beautiful day, about a fortnight later, I had a telephone message from the owner to say that her bees were crawling badly. I went to see them. There were, literally, thousands. I watered the ground with Izal, swept up the dead, and tried the onion syrup, after removing the supers which were partly filled. As there was plenty of nectar they would not take the syrup. An expert from a neighbouring town had been called in, and pronounced them hopeless, but I determined to try and save them and cut up several large onions into slices and placed these on top of the frames. In a few days all crawling had ceased. I re-queened with two pure Italian queens, and although the hives were sadly depleted of their population, we began to hope. These stocks have fully recovered, and in addition to giving about 40 lbs. of honey, have been made into three stocks I am hoping that this will be a permanent cure.

Last year, when at the Bee-keepers' Conversazione, I heard Mr. Bryden speak about queenless bees gathering more honey. Doubtless he will remember me speaking to him afterwards on the subject. I have lost his address, but no doubt he will be interested to learn that I tried the experiment with one hive this year, and have obtained more honey from this hive than from any of my others. I tried the experiment with a strong stock purchased in May (early). If you think it would be of sufficient interest to your readers, I will give you my experience in detail, as I have kept a record. It has been a good season here up to about July 12, when the flow suddenly ceased.

To have taken, as I have, over 4 cwt. of honey from five hives in a town site, where my bees have to fly a long way to get their nectar, is, I consider, very good. I have had no swarms, although I have pure Italian

and Dutch-Italian bees. "Room in *advance* of need" is the golden rule of successful swarm prevention and honey production. If you care to have any further contributions from my pen I shall be happy to send some.

With best wishes for the success of our "B.B.J."—ALFRED JACKSON.

[We shall be pleased to hear further from our correspondent, especially about the queenless colony storing honey.—EDS.]

Use of Queen Excluders.

[10530] As several of your correspondents have lately touched on the question of using excluders to prevent the queen laying in supers, may I give my experience?

I have kept bees for many years, but have never had a single section spoilt with brood. Once I saw several on a hive belonging to a friend, and I noticed that he had two different makes of frames in brood chamber. Some had top bars ¾ in. wide, the others were a full inch wide, and I expressed the opinion that the narrow top bars were the cause.

All my frames have a top bar a full inch wide, both standard and shallow, and I never use the excluder, but the shallows are used to extend the brood nest, so that the queen is always welcome there. I should certainly use the excluder if I wanted to keep her out of shallow frame supers.

Hoping this will be useful to someone, and that the JOURNAL will continue to flourish.—W. MIST.

[Wide top bars will help to keep the queen below, a top bar that is *thicker*, as well as wider, will be still more effective.—EDS.]

Laying Workers.

[10531] Replying to the Rev. E. F. Hemming's "Jottings," of September 15, the writer says that there are very few hives where fertile workers are not raised. Surely this is quite an unproved statement, and plainly is incapable of proof.

The statement is also made that "since the drones from these fertile workers are no fertility." Presumably this is a printers' error, and means, I take it, that drones from laying workers are impotent. This is another loose statement, the truth of which is not borne out by fact.

Whilst making my experiments in drone egg fertilisation, I examined a great number of drones under the microscope, both ordinary drones, those from unmated queens, and those from laying workers; in every case I found them fully virile, the only distinguishable difference being the amount of seminal fluid present, which, of course, is accounted for by the smaller drones being reared in worker cells. Drone eggs from a fertile queen were successfully fertilised with the seminal fluid from laying worker drones, perfect queens resulting.

Regarding the ability to distinguish laying workers, I agree with the editors, but it may be that different races of bees may vary in this particular.—GILBERT BARRATT.

Bee Shows to Come.

October 1, 1921 (Saturday).—Harrow Beekeepers' Association, in conjunction with Harrow Horticultural Society, at Greenhill, Harrow. Class 42, Open to the United Kingdom, one section of honey, 1921. Prizes: 20s., 10s., 5s. Exhibits become the property of the above Association.—Particulars from J. L. Rogers, 289, Station Road, Harrow **Entries close September 28.**

October 20 and 21.—Ayrshire Agricultural Association. Dairy Show, Agricultural Halls, Kilmarnock. 13 Classes. Liberal prize money.—Prize schedules from John Howie, Secretary, 58, Alloway Street, Ayr. **Entries close October 7.**

October 26 and 27.—Peterborough, Oundle and District Honey Show, in connection with Oundle Horticultural Show, held in Victoria Hall, Oundle. Gift Class: 1-lb. bottle of honey; no entry fee. Entries to be sold for Peterborough War Memorial Hospital Fund. 1st prize, value 50s.; 2nd, 10s. 6d.—Schedules from Mr. Sarjeant, Organising Secretary, Bank Chambers, Cathedral Gateway, Peterborough. **Entries close Oct. 21.**

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FINEST SAINFOIN HONEY, excellent flavour. £6 15s. per cwt., carriage paid.—HOGAN, Boxford, Suffolk. r.t.56

Fertile Italian Queens. 8/6. Delivery by return. PEARSON & GALE, Marlborough.

IRISH HONEY, finest extracted, £6 10s. per cwt.; sample 6d.; Sections, 20s. per dozen.—CRAWFORD, Apiaries, Castlederg, Co. Tyrone. r.t.90

EXCEPTIONALLY fine Buckinghamshire Honey, £8 per cwt., or 1s. 6d. per lb., in 28- and 56-lb. tins.—STEVENSON, Thames View, Flackwell Heath, Bucks. r.t.93

MICROSCOPE (Binocular), worth £30, accessories, also six Stocks of Bees, W.B.C. Hives; best offers; going abroad.—WALTER BARBER, 44, Frant Road, Thornton Heath, Surrey. t.98

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THAT ACARINE ECLIPSE PAD.—It knocks out mites and moths. Worth 5s., but to enable you to test it we will send one only at cost of postage and wrapping, 6d.—S. H. SMITH, 30, Maid's Causeway, Cambridge. t.130

SCREW-TOP HONEY BOTTLES, best quality white flint glass, 1 lb., 4s. dozen, 42s. gross; ½ lb., 3s. dozen, 32s. gross.—COBB, 33, Bevan Road, Plumstead. t.131

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HONEY.—Finest Australian, two 60-lb. tins, 58s.; one 60-lb. tin, 30s.; finest West Indian "Melta" Honey, two tins, about 60 lbs., 73s.; one tin, 56 lbs., 40s.; four tins, each 7 lbs., 24s.; carriage paid 100 miles. Immediate delivery.—LONDON TRADING AGENCY, 32, St. Mary Axe, E.C.3. t.119

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Editorial

Obituary Notice.

MR. F. W. L. SLADEN.

It was with deep regret that we had to announce last week, just as we were going to press, the death by drowning of Mr. F. W. L. Sladen, Dominion Apiarist, on September 10, at Duck Island, Ottawa, where he was carrying on research work in bee-breeding.

Mr. Frederick William Lambart Sladen was born on May 30, 1876, at Shooter's Hill, Blackheath. He was the son of Lieut-Colonel J. Sladen, R.A., and his mother, Lady Sarah Sladen, was a daughter of the eighth Earl of Cavan. He was privately educated, commenced bee-keeping at the age of thirteen, and soon after he began to study wild bees, especially the humble bee. Our attention was first drawn to Mr. Sladen in 1892, when we saw a notice of a small book of forty pages written by a "young naturalist," and entitled "The Humble Bee." We sent for the book, and were much gratified by its perusal, as it was perfectly unique, inasmuch as it was altogether the production of the author, not only the writing and illustrations, but the printing (by stylography), and the binding. Although Mr. Sladen was only sixteen years of age, in this work, written from actual investigation, he showed an acquaintance with the subject far beyond his years, which gave promise that if he took up bee-keeping he would some day rise to prominence. From correspondence with the Chairman of the British Bee-keeper's Association he became interested in the science, and visited India in the winter of 1896-7 to investigate the honey-bees of that country. He found *Apis dorsata* and *A. florea* useless for domestication, but brought home alive a queen of the Himalaya honey-bee, which also proved useless. On his return from India he decided to take up bee-keeping as a calling, and went in for honey-producing on a large scale. Finding English-Italian hybrids to be larger honey-producers than native blacks, he decided to breed them for sale. Close observation with a study of the laws of heredity and the work of breeders of other animals, as well as of plants, led him to the conclusion that a distinct breed of bee, selected for the production of honey in the English climate, should be superior to the Italian for crossing with the English bee. The great difficulty of produc-

THE LATE MR. F. W. L. SLADEN.

ing and maintaining such a breed in England, where isolation was unobtainable, Mr. Sladen overcame by the aid of a distinctive colour, obtained by cross-breeding with American Goldens, and the new variety was introduced under the name of "British Goldens." This variety, bred in its purity year by year in Ripple Court Apiary, the result of selection carried out through several successive generations, showed many qualities not possessed by foreign bees. "British Goldens" did prove a success in spite of much criticism from those who held the opinion that there could be no better bee for the British climate than the native black, and also from advocates and breeders of "three-banded" Italians. Mr. Sladen always believed that for progress in bee-breeding purity of stock was essential, and showed that three-banded bees—even the brightest—were indistinguishable from hybrids, so that it was impossible to breed in England a pure three-banded race distinct from the ordinary bee, as it is to breed a distinct pure black race. Mr. Sladen published in the B.B.J. (December 9, 1909, page 482 *et seq.*) an account of his bee-breeding work, and gave figures which not only proved the truth of his claim that he had succeeded in breeding bees by selection, but showed how he had done it.

In 1901 he discovered the function of Nasanoff's organ, a membrane situated at the base of the sixth dorsal segment of the worker-bee. Mr. Sladen found that the bee, in her joy at finding herself unexpectedly in the vicinity of her home, exposes the membrane and emits from it a pungent odour, which attracted other bees searching for the hive, thus saving much bee-life (see B.B.J., vol. xxix., page 142). In the autumn of 1901 he made a tour in America, visiting the A. I Root Company's establishment and several prominent bee-keepers

In 1902 Mr. Sladen married Miss Violet Barton, daughter of Captain C. R. Barton, D.L., of Pottigo, Co. Fermanagh, Ireland, the acquaintance being made through correspondence in the British Bee Journal. He successfully shipped both "British Goldens" and queens of foreign races to India, Ceylon, Java, Uganda, Pretoria, and the Seychelles, and was also successful in sending humble-bees to New Zealand. With regard to the latter, it may be noted in passing that *Bombus terrestris* and *B. ruderatus* were introduced as the results of shipments made in November and December, 1884, by Messrs. Nottidge, Dunning and Baldwin, but *B. terrestris*, having been found to injure the flowers by biting in them, Mr. Sladen was asked to ship other species to compete with it. His shipments made in 1905 and 1906 consisted largely of *B. lapidarius*. He was fortunate in having a loss by death on the voyage of only about 40 per cent. of the queens, the 1884 shipments losing about 80 per cent.

Mr. Sladen was for many years a regular contributor to the B.B.J., and wrote a series of articles on "Our Wild Bees," his writings being frequently illustrated by himself. His work on "Queen Rearing in England" originally appeared in the "B.B.J." in 1904, and was published in book form in 1905, a second and enlarged edition appeared in 1913. He was also the author of "The Humble Bee; Its History, and How to Domesticate It," which appeared in 1912, and was illustrated by excellent plates showing the bees life-size and in natural colours, photographed direct from nature by the author. He had also contributed the "Hymenoptera of Kent" to the "Victoria History of the Counties of England." In 1912 he was nominated by the Department of Agriculture, Ottawa, to the position of Assistant Entomologist for Agriculture in that department, and, on reference being made by the Commission to Mr. Cowan, he was able to recommend him as in every way suited for the position, and, while regretting to lose him from this country, was satisfied that he would fill the position with credit. Mr. Sladen obtained that appointment and his work in Canada fully justified his selection. He had been appointed since then as Dominion Apiarist, and met his death in the execution of his work of bee-breeding on Duck Island, which is eleven miles from the mainland. Just previous to his leaving England in 1912, Mr. Sladen, at the invitation of the B.B.K.A., gave a lecture on "Mendelian Methods Applied to Apiculture,' a verbatim report of which appeared in the "B.B.J." on Nov. 14th and subsequent numbers, and which drew a large and appreciative audience. His death is a great loss to bee-keeping, which it will be difficult to replace, as there are few able to carry on the work with such ability. In the last edition of "Queen Rearing in England," there is a view of Mr. Sladen's former home at Ripple, near Dover, which was built from the profit derived from breeding bees and queens in Ripple Court Apiary. In view of what has happened, the closing sentence of the preface to this book written from Ottawa on Feb. 28, 1913, while taking leave of his old friends is pathetic. The following are the words:—"The hum of the bees in Ripple Court Apiary is no longer heard by the author, who has entered a wider field of bee work in Canada, but he looks back with pleasure to the

happy years spent in that rural spot in the old country, and he takes this opportunity of thanking the British bee-keepers for the generous support they accorded him while there."

By the death of Mr. Sladen we lose a sincere friend and fellow-worker, and take this opportunity to extend to his wife and family our sincere sympathy and heartfelt sorrow in their loss.

Jottings from Huntingdonshire

I take off my hat to Mr. Gilbert Barratt; he knows much more about the anatomy of the bee than I do, and I welcome criticisms from such men as he. It is good for all of us to be criticised openly. The worst of it is some people will criticise secretly and with the intention of damaging one's reputation, and occasionally write ungentlemanly anonymous letters which one, of course, ignores But most of us are glad to be taken publicly to task; it gives an opportunity for explanation and to prove one's statements. First of all, then, Mr Barratt thinks I have gone too far in stating that there are very few hives where fertile workers are not raised, and thinks it a statement which cannot be proved. Let me make it clear that I do not think laying workers are raised by deliberate design, but that they are raised in most hives by accident or by freaks of nature; this can be proved, and without great difficulty Isolate a hive in April or May, take away the queen and examine frequently to prevent other queens being raised from eggs or very young brood, and it won't be long before a laying worker begins to deposit eggs. There will be exceptions to this, but the proportion of colonies so treated showing laying worker brood will be about 80 per cent. This, to me, is not extraordinary. Since every worker bee is an undeveloped queen the wonder is we are not pestered with laying workers, and that one or two of these pests should be (accidentally if you like) raised to every ten thousand workers is not surprising. It may be asked, why isolate a colony to experiment? To answer this I must make another statement which is not unproved. A queenless colony in an apiary will sometimes succeed in raising a queen though the hive be devoid of brood The egg placed in the queen cell is obviously stolen from another hive. From careful observation I am coming to the conclusion that the drones have something to do with this, not so much in the carrying of the eggs as in introducing a worker to another Live for this purpose Isolation is therefore necessary to prevent this purloining of eggs.

Now as to my second statement. The compositor has made me say that "drones from these fertile workers are no fertility." As Mr. Barratt suggests this is a printer's error. When I read the mistake I could not refrain a laugh, as I wondered what the average reader would make of it. While I cannot remember the exact words I used I know what I intended to say, "Drones from these fertile workers have not much fertility," and touching this Mr. Barratt and I seem to be in agreement.

Bees are wonderful creatures and at times nonplus us by their wisdom. A fortnight ago I got three lots of driven bees and placed each lot near the hives to which I meant to unite them. Before the uniting took place I found a queen in one of the driven lots and took her to a stock which I had rendered queenless. Placing her on the alighting board she hurried into her new home, and was welcomed by the bees within. About fifteen minutes afterwards the driven bees missing their queen came out of the skep in a swarm: after flying for a few moments in the air they all made for the hive to which I had introduced their queen, they had to pass two hives on the way, one more proof that bees have ways of their own in finding their queen.

The outside feeding has been quite successful. True, a few, perhaps a dozen, bees lost their hives, but there were no untoward results. It became rather embarrassing as the days went on as quite a number of bees would come buzzing around me when going out, like fowls which rush up when the one who feeds them appears.

One or two readers have asked if I have forgotten my brush, or has the drought dried it beyond use. I think I know what they mean. Not every reader, however, appreciates my feeble word painting, but I must try a pen picture next week, if only for the sake of that patient reader down Croydon way, whose window looks out on a leafless railway embankment. October gives us colours too good to miss.—E. F. Hemming, Steeple Gidding.

Railway Rates.

The cost of carriage on honey and bees has for some time, even before the war, pressed heavily on bee-keepers.

This has been noticed more lately now the craft has begun to revive, and the traffic in bees and honey has increased. Shows also at which there are honey competitions have once again become numerous, and there is no doubt that the cost of carriage prohibits many bee-keepers from exhibiting their produce, thus bringing it and their names before the public, and helping them to find a market, even if they are not successful in winning a prize. Then, again, if a market is found the high cost of carriage is against the bee-keeper getting a fair price for the honey produced.

It is an opportune time to take some action in order to try and get a reduction in the railway rate. Honey and bees should, we think, at least be classed as agricultural produce and conveyed at the same rate.

We should be pleased to hear our readers' views, especially if they can give instances of how the high rates have militated against them as bee-keepers. In some instances, we believe, the cost of carriage to and from a show has exceeded the value of the honey sent for competition.

Bee Notes from Derbyshire.

(*Continued from page* 454.)

I am afraid there is a lot of bees in skeps this time that will want feeding up for winter. I came across one such last week—a boy had bought it last June with his pocket-money, he said a handful of bees for five shillings; but it was really marvellous what they had done. The queen had it to her liking; as fast as the bees built comb out, she packed the cells with eggs. It was a large skep with a wood rim on bottom, and when I first saw it the six centre combs were one mass of brood to the bottom, but not a drop of honey could I see, or feel, by the weight of it. I said they would want feeding up quick, but to tell them how to do it, puzzled even me for a while. It was a dome-top skep, with no hole in the top, and stood on a stone. I got a large box and bored holes in the bottom, turned it upside down, and stood the hives over the holes; then I cut a board out of the end, so they could get a bread-tin full of syrup, with a float on top, close underneath. The float, however, did not act properly, a good few had got in the syrup, crawled out, and fell to the ground and died.

I can see it wants a box making with sides square up, so the float can sink as the syrup does. It is a good idea, for with a large enough feeder they would quickly feed up. A bit of stuff tacked on under the hive, inside the box, to reach down to the feeder for bees to run up and down completes it, while no bees can get at it from outside if box is bee proof. Then, when bees are fed up, put the hive back on the stand for winter, and save box for another time. If they were short at spring, what better method than pop them on the box, then a dose of syrup, and back on the stand again? They had fetched 3 lbs. of syrup up in two nights, and with a bigger feeder they would fetch more.

I don't like to say it, because I know it will offend some of my greatest friends, but I do wish they would stop whining about legislation on bees, as some of them are doing every week. It does not make good reading in the "B.B.J." now. I am sure it would not have been nice work for me, say, last February, if an inspector had come along spying round my bees, and said, "Oh, I see you have three lots died of Isle of Wight disease; your other lot is just starting crawling; you must sulphur them and burn the lot," or something to that effect. I should have had no bees now.

When I saw the last lot start crawling, I said it was kill or cure. I washed the worst combs in Izal water, as there was a lot of heather honey on them, and put them under this crawling stock to clean out, with the result that the stock grew up to an enormous size and swarmed off thirty-three brood combs, twenty having brood in them on June 8.

I made eight nuclei from the brood. I have not seen a crawler in any of them. But the swarm started crawling very badly just as the limes were blooming, so I let them crawl till super came off, then I fed with Izal syrup, six drops to one pound of sugar, and in a week crawling had stopped again; they are now in fine condition for winter.

Another lot I had at Rushley started crawling very badly just as heather honey came in. I could not take Izal syrup eight miles, but I took the Izal bottle and a sprayer, and sprayed all the honey in every comb, omitting unsealed brood. Well, four days after there were only a few crawling, three days later only two, and last Monday (September 12), on a hot afternoon, none, so I sprayed again. No, it's more experimenters we want to bring about the survival of the fittest. I have ten good stocks now.—Tom Sleight.

[We wonder how long the idea that when we have legislation for bee diseases, a host of inspectors would be continually "spying round," as Mr. Sleight puts it, will persist. The thing would be impossible. We have continually pointed out neither that nor "burn the lot" on the slightest suspicion of disease is advocated by those bee-keepers who can see the need of legislation, both ideas are absurd. Those who want legislation are not "whining," but working for it. "All things come to those that know how to wait," and we shall have legislation sooner or later.

We shall be pleased to hear how those stocks that had crawling bees come out in the spring.—Eds.]

The Season in East Stirlingshire.

About a year ago I sent you a report of absolutely the worst season on record; save for a little heather honey gathered the last week in August, the season was a blank.

This year I have another tale to tell. Last autumn seven stocks were put into winter quarters, mostly sugar stores, this year they go into winter quarters with a large proportion of natural stores, all with enough to carry them on until they can forage for themselves, as I believe in doing all my spring feeding now, and at any time a little more than enough is just right.

Early in March I was wondering where I was to get pollen for the early spring necessities, and I went to have a look at my bees, intending to lay out some pea meal for their use, but ere I got near them the difficulty was solved, for from hundreds of flowers of the lesser celandine they were taking toll of pollen, and every stock looked prosperous. A fairly mild spring, and they built up rapidly, gooseberries, plums, pears, and apples, each in their turn supplying the wants of the increasing band of foragers.

The plane tree and hawthorns gave but little this year, and the fields were not ready, but the raspberries filled the gap; by the first week in June the best stocks were crowding twenty combs. Working mostly for extracted honey, it was now time to put on the supers. Weather up to now had been good, a fair amount of rain, with plenty of sunshine between showers, but now began a spell of glorious weather. Our heavy land can do with a lot of dry weather, and does not appear burnt up, while on sandy soil everything will be brown. June kept fine,

and it was a welcome sight to see the supers being filled. July came and still no rain, all the visible sources of nectar were past, but bees still were busy bringing in full loads; there must have been a lot of honey in the clover, which does not often happen here, as the clover generally yields but little honey in this district.

By mid-July the limes were in bloom, a full fortnight earlier than usual, and the first rain came, then I went off for my holidays. The weather must have been more or less broken for the next week, as very little was got from the trees that were blooming within a stone's throw of my apiary. I returned from holidays on July 26, to get my stocks ready for the moors, as I meant to have what was going there. I put clearers on those stocks that had sections, so that I might get any sections that were not finished to put through the extractor, and use them for the heather. The 28th it rained all day, the 29th had a dry interval at mid-day, of which I availed myself to get the supers off. I got three hives ready that night. The 30th was the worst day of all, and I had five hives to pack for Monday morning, 6 a.m. They were all ready for removal in good time, were on the moors twenty miles away by 9 a.m., unpacked, and everything fixed up by 11 o'clock, and, owing to the rain which was falling, not a bee flying, yet by 1 p.m. they were working on the heather.

It was now time to attend to the extracting. My first ten standard combs I expected to give me 40 lbs., I got 30 lbs. The honey was so thick it would not come out, but I was not going to be beat, for my next lot and all the succeeding lots I filled the house boiler with water, put on a good fire, and packed the supers on the top, let them stand all day, and they then extracted quite clean. The quality was excellent, the quantity surpassed expectation. My best stock, a Carniolan hybrid, which I picked up in July, 1920, gave me 140 lbs., an Italian 100 lbs., two stocks into which the mice had got and done a lot of damage gave me 60 lbs. each. I expected at one time to get 20 lbs. from each. A hybrid Dutch, about the best stingers ever I came across, always wanted to swarm: at the finish I requeened with a ripe Italian queen cell, and then they swarmed without a queen, and clustered for three hours, ere I put them back after I had found the Italian virgin in the hive, then they set about working, and gave me 80 lbs. In the meantime I had increased my seven stocks to twelve, using one of my stocks to provide brood to set up the nuclei.

All the bee-keepers in the district have record crops, the best in sections was got by our Provost, 100 sections from one hive. They gathered at the rate of a rack per week, these were got from a twelve-frame hive of black bees, and they had more than enough stores to take them through the winter. A hive of Italians alongside swarmed, the swarm gave thirty-six sections, and the stock thirty, but when I overhauled them after the supers were removed they had not 10 lbs. of stores in either of the hives.

At the moors the weather has been very changeable, so disgusted was I with it I brought my bees home a week earlier than I first intended, and I don't think I lost much. From eight hives I had between 50 and 60 lbs. of super honey, thirty-two sections of that were good, and most were sold for 3s each, that paid expenses. In the brood nest little honey was stored. I had mostly young Italian queens heading the stocks, and they had attended to the brood nest. The quality is excellent, and from the very broken weather they had, I was pleased to get any section honey at all, but I was surprised that the heather lasted so long, it usually gives way quickly in broken weather.

Now, farewell to 1921 as a honey year, we are now working for 1922. Let us hope we will get something more than a few stings to keep alive that optimism of which we bee-keepers must have a superabundance, or most of us would not have been bee-keepers in this record year.—J C A., Grangemouth.

Jottings.

The British Show and Meeting, page 454. Our Editors draw attention to the disparity in entry numbers between North and South. It would be exceedingly difficult to please everyone, but some attempt might be made to make the competition, if not a little more equal, more attractive and useful to the individual towards the primary object of shows, namely, to dispose of and create a market and knowledge of our products, and where they may be found and bought. I had left my schedule behind and could only remember one entry number. I found it all the job in the world until, referring to the crate lid to find my exhibit, not being a winner! Now we all claim the right to sell, also to look for the neighbours' luck and samples. A prospective buyer who objects to "taking coals to Newcastle" might look in vain for any help unless in the vicinity of a winner. I saw none unsaleable, but in Class 2 there were 40 entries. I did not envy the judges their job, but none were thought worthy of "recommendation." Is this usual or fair?

I suggest the adoption of an address card for each exhibit, for the public convenience and local interest. We do this in Surrey. It may entail more secretarial work, but should repay in general satisfaction and usefulness, and would play its part in spreading knowledge, or at least where it might be found.

Again, if we are to divide in two groups of classes only, the idea must be considered of changing the meeting-place, by an agreed cycle, that we may all have the privilege of entertaining and reaping the advantage of distance, at the same time getting our share of local interest and assistance for propaganda work. Can we run such a show off our own bat? Surely a British Association can. Have we ever asked for a prize or show fund?

We hear a good many grumbles from time to time as to advantages of membership, etc. I suggest it is ignorance rather than mistrust. Can we not have a little more publicity and interest distributed of the business of the Association? Really, one wonders if the

members are invited out twice a year to meet the Council. This latter is expressed badly, but we small fry like to know what is doing, how we can help, and what to offer new members. Inconvenience of abode and business make county delegates of none effect to the average member. We must have more publicity. We have the organ; it is for us to play the tune. The discussion showed the need and demand for a greater interchange of ideas and personalities. Can the Journal or other Press be invited to send a representative to meetings? Surely we have very little really private business.

I make these remarks in no critical spirit, but to open discussion on some of the ways we may make our British Association more useful and popular and as a national asset to secure our rights and privileges as bee-keepers with produce. Let us not forget the Colonials are after our market, and pretty successfully.—A. H. HAMSHAR.

Cotswold Notes.

A SEPTEMBER DAY.

September holds a day of luscious quiet. No early breeze stirs the limp hedgerow leaves, nor blows into little heaps the fallen foliage lying in ragged lines by the beech-plantation. The sun has not yet dried the heavy dew from the wider greyer blades of the hedgerow grass, or the moisture, covering with a glistening film the delicate spider's web suspended from the outstretched thorn twigs.

The faint greens of late summer blend with the tints of yellow and brown and russet which distinguish another turning-point of the year, and add a fresh and deeper charm to the autumn months.

Look down on the village while the morning mist still hangs aloft. The cluster of cottages surrounding the square towered church are visible between the tree tops, and cunningly conceals the farm road which extends from end to end.

The air is so still that the smoke curls higher and higher until it is lost from view. The pleasantly vibrating hum of a threshing machine comes up the valley from a wayside stackyard.

It is good to stop and reflect upon the scene as the morning mist gives place to the faintly blue haze of a fine day.

On the hillside the teams are at plough, and rich brown lines follow their trail across the uneven stubble. At intervals, clumps of prettily-tinted bushes and little spinneys add a touch of colour to the rolling hill lands until they fade into the dim skyline, and the wide road winding in and out looks for all the world like a white ribbon trailing from the sky.

Even at this late season, when the brilliance of the flowers has passed, the vivid green turnip fields are studded with the unobtrusive charlock, which rears its yellow head so charmingly from amongst the deeper foliage.

Invigorating indeed is the fresh pure air sweet with the fragrance of such out-of season gems of the field which flourish in late September.

The peacefulness of such a day as this should be an antidote to alleviate the sadnesses of life, and he is no lover of nature who cannot find some charm in the countryside under the softening influence of a still day.—A. H. BOWEN.

Hubam and Seradella.

I hope some kind friend will send me a couple of seeds of the new annual sweet clover described in the "B.B.J." by "J. L. B.," and evidently the same as that called Hubam in America. I ask it as a reward (given probably by a third party) for the many packets of Seradella that I gave away last spring.

My Seradella has been blossoming continuously since the end of June and is now a complete mass of bloom. It is not a heavy mass of fodder, and would probably not cut three-quarters of a ton of hay to the acre, but a crop of it ploughed into a light soil would add great value. There are usually a few bees upon it, but never the crowd that one sees now and then on alsike. Its best season of bloom, however, is evidently late September and after, and that makes it a valuable bee-flower. My own patch is in rather a sheltered situation; I think it would prove a greater attraction out in the sun. I have seen bees on it with pollen baskets filled from white clover, as though they had not been able to get nectar from the first flower and so must fill up from the Seradella. The pollen of the latter plant is brass-coloured, and very distinct from sainfoin. It heaps in the pollen basket with jagged edges and looks like a veritable bit of brass. Perhaps some of those to whom I sent seed will add their report.—G. G. DESMOND, Sheepscombe, Gloucestershire.

Echoes from The Hives.

REPORT FROM THE NORTHUMBERLAND MOORS.

We took up to the Longframlington Moors (Gate Farm) nine stocks, but our results were very varied, and, generally speaking, unsatisfactory.

The first fortnight was awful weather—rain, and very cold. Heather was very fine, and miles of it, but quite impossible weather for the bees, at least our experience was so. On our pitch there were about twenty-five hives, a slight improvement on the previous year, but further along the moors there were about forty more. Mr. Jackson and the writer had not the pleasure of meeting any of the other beemen, except one from Amble, who reported great success with the Yankee hive and Commercial frame, for the clover harvest, having made a record.

Locally, we did fair with the clover and such honey will be long remembered, for owing to the miners' strike we had no smoke. Remember, *Tyneside without smoke!* Yes, our local honey would satisfy dear old friend Kettle.

We should have enjoyed meeting with "Robin Hood," but no such luck was ours.

What a golden opportunity for an exchange of notes is offered when at the moors, for there is much to learn yet as to the best way to get in this heather harvest. The question of stock, condition of stock, hives, etc., and the best way of transit, these days of high prices, are all questions that need a deal of consideration.

We feel that we shall have to get a Tyneside Society some day. If others think the same, forward a post card to the writer of this, and if numbers are sufficient we may make a beginning shortly.—J. SYDNEY GILES, Fowler Street, So. Shields, September 29, 1921.

Staffordshire Bee-Keepers' Association.

The ninth autumn exhibition of bee produce was held on Saturday, September 24, in the Lecture Hall of the Technical Buildings, Stafford. The honey harvest in the county was exceptionally good up to mid July. Some heavy takes of honey have been recorded, but the average per stock, spring count, would be about 30 lbs., so the exhibits, in point of numbers, were satisfactory. And the judge, that veteran exhibitor Mr. J. Pearman, of Derby, had a very hard task in deciding on the best. He said that practically every exhibit deserved a prize for quality. The light honey, with twenty-two entries, was a very fine display and came from every district in the county, so in a way was highly instructive. The good feeling that was shown amongst the exhibitors and the judge after the awards were examined proved that every satisfaction had been given. The awards were as follows :—

Class 1.—Comb Honey in Sections (9 exhibits) : 1st, Geo. Gupton, Bromstead ; 2nd, Miss K. Capewell, Broeton ; 3rd, J. Taylor, Chapel Street, Stafford ; h.c., G. W. Buttery, Doxey.

Class 2.—Light Extracted Honey (22 exhibits) : 1st, Geo. Gupton ; 2nd, G. W. Buttery ; 3rd, F. Trawford ; h.c., Geo. Ollivant, Croxton, W. Collis, Gratwick, and W. Friend, Gnosall.

Class 3.—Extracted Honey (other than light) (9 exhibits) : 1st, E. Jacques, Walsall Road, Lichfield ; 2nd, Geo. H. Mylton, Lyncroft, Lichfield ; 3rd, J. W. Crosby, Hydes Lea, Stafford ; h.c., S. T. Durose, Stapenhill, Burton-on-Trent.

Class 4.—Granulated Honey (9 exhibits) : 1st, Miss K. Capewell ; 2nd, Geo. Gupton ; 3rd, M. Craddock, Longden Green, Rugeley.

Class 5.—Beeswax (9 exhibits) : 1st, J. Swanwick, Newcastle Road, Stone ; 2nd, M. Craddock ; 3rd, Miss Capewell.

Class 6.—Shallow Frame (7 exhibits) : 1st, J. Taylor ; 2nd, E. Jacques ; 3rd, Miss Capewell ; h.c., W. Friend and W. Collis.

Class 7.—Gift Class (15 exhibits) : 1st, B. Warrender, Stavegate, Blymhill Lawn ; 2nd, G. W. Buttery ; 3rd, Miss Capewell.

Class 8.—Honey in Metal Comb (1 exhibit) : 2nd, J. Price, Stafford.

It was a great pity that class 8 for the metal comb did not draw more exhibitors. There are several bee-keepers in the county experimenting with them, but we presume they are too valuable to entrust to the railway and to the dangers of a show, but the committee are not daunted by this poor response, and will try and lure the owners to exhibit next year. After the visitors and exhibitors had viewed the exhibits, and renewed old friendships, refreshments were served by several of our lady friends, and then the chairman, Mr. J. Price, called on the judge, Mr. Pearman, to give an address on "Some Hints for Exhibitors." From the questions asked afterwards, some of our old exhibitors were taught a wrinkle or two. He told us that after selecting and extracting his combs of honey he strained the honey into his ripener through a piece of worn and clean flannel. After standing a few days he drew off about forty or fifty jars, filling the jars completely up to the top. They were then stored in a warm place for about a week, which caused the air to rise to the top. The surface honey, about a couple of teaspoonsful, was then skimmed off, which took away all froth and thin honey. These bottles of honey were drawn upon for the different shows, and to remove granulation it was warmed up once, and once only. Honey warmed up more than once losing flavour, aroma, and colour. Mr. Pearman was heartily thanked for his address, which, no doubt, will help exhibitors to improve the quality of their produce. Mrs. Ollivant, of Croxton, kindly presented the prizes to the winners, and the meeting then resolved itself into talkative and happy groups, which makes these gatherings so appreciated by the officials, who, as a rule, find it all hard work and no play.—G

Monmouthshire Bee-Keepers' Association.

The annual show of the Association was held on Friday and Saturday, September 23 and 24, at the Cattle Market, Newport, in conjunction with the Newport Allotment Holders' Utility Show.

There were 41 entries, and the exhibits, especially extracted honey, were of a high standard. Rev. H. G. Stanley, chairman of the committee of the Association acted as judge, and the following awards were made :—

Confined to Members of Monmouthshire Bee-Keepers' Association.

Six 1 lb. jars extracted honey, light : 1st, W. G. Leggatt ; 2nd, Mrs. Lusty ; 3rd, Graham W. White ; reserve, R. Hancock.

Six 1 lb. jars extracted honey, dark or medium : 1st, R. Todd ; 2nd, Mrs. Lusty.

Four 1 lb. sections : 1st, Mrs. Llewellyn Morgan.

Two 1 lb. sections : 1st, Mrs. Ll. Morgan ; 2nd, G. A. Knowles.

½ lb. beeswax in one cake : 1st, W. G. Leggatt ; 2nd, R. Todd.

Open to All.

Six 1 lb. jars extracted honey : 1st, Mrs. Ll. Morgan ; 2nd, W. J. Watkins ; 3rd, S. Wills.

One shallow or standard comb : 1st, W. J.

Watkins; 2nd, J. R. Strange; 3rd, Mrs. Lusty.

One 1 lb. jar extracted honey, presented: 1st, R. Todd; 2nd, Mrs. Ll. Morgan; 3rd, R. Hancock.—R. T.

Harrow and District Bee-Keepers' Association.

The Harrow and District Bee-Keeping Association held their third annual show on Saturday, October 1, which proved very satisfactory. The exhibits were of a high standard of excellence, Mr. A. G. Gambrill, the judge, speaking very highly of the exhibits. In the open class for one section, Mr. C. Robins, of Andover, Hants, secured 1st prize; 2nd, Mr. A. Bates, of Leighton Buzzard; 3rd, Rev. L. Bouch, of Uxbridge. In the members' classes the lady members secured chief honours. Three sections: 1st, Miss Peake; 2nd, Mrs. Davies. Three 1-lb. jars of light honey: 1st, Miss Staff; 2nd, Miss Gardner. Three 1-lb. jars medium: 1st, Mr. Stanfield; 2nd, Sub. Inspector Jarvis. Two shallow frames: 1st, Miss Peake; 2nd, Mr. H. Fleet.—J. L. ROGERS, Hon. Sec.

Notes and Comments.

By X.

Instinct?—The following note by E. G. Le Stourgeon, entitled "The Lemming, the Butterfly and the Bee-keeper," in the *Domestic Beekeeper*, needs no comment. The moral is so obvious, and quite as applicable here as in the States:—

The ways of the lesser animals are inscrutable to man. John Burroughs says that they have some gifts that have been denied to man. I have just read of those little rodents, the lemmings, of Norway. At more or less regular intervals they set forth in their millions to reach the sea. To do so they swim the rivers and scale the cliffs. Along the pathway of their trek they are preyed upon by bird and beast. But onward to the ocean they must go. They keep their tryst with the cold North Sea. When they reach the shore they plunge in and swim out into the deep, from which not one ever returns.

Think of those butterflies, too. There are species both in Asia and America who obey the same instinct. Some have supposed that at a previous period in the old world's history there may have been islands for them to reach, but have since disappeared. No one knows if this or some other cause is the reason, but the fact remains that again and again they follow the same course, follow the same track, and are all drowned in the same waters.

How like them have been the bee-keepers. The harvest comes. They rush their honey to an already glutted market. The prices fall. They organise a county, or State, or national association that glitters with the splendour of mutual applause and academic theory. Countless times have they followed this course. Only here and there, in California, in Colorado, and in Texas, has a new type organisation been tried—one that takes cognizance of marketing and of co-operation in buying.

These have opened a new vista to bee-keeping. Markets are no longer glutted. Grades are becoming standardised. Prices are more and more stable. The butterfly and the lemming type of producers are learning a road that is entirely free from the old time fear of disaster.

It is time that all bee-keepers band together in an organisation or organisations that will do for the industry as a whole what these co-operative associations have done locally. This is the mission of the American Honey Producers' League.

Peculiar Honey Dew.—The editor of *Gleanings in Bee Culture* mentions a peculiar honey dew sometimes gathered from scrub pine in considerable quantities, which contains a rare sugar named melezitose. A feature of the honey dew containing this sugar is that it granulates as fast as it is deposited in the cells. Melezitose has been found in the form of honey dew on the Douglass fir in British Columbia, and from scrub pines in Pennsylvania and Maryland. The colour of this honey dew is not stated. Have any of our bee-keepers with pines in the vicinity of their apiaries noticed anything of the kind?

Memorial to Dr. Miller.—A fund is being raised by both the *American Bee Journal* and *Gleanings* for this object. In this country subscriptions to the fund are being collected by the *Bee World*. Dr. Miller's influence on bee-keeping was and is world wide. It is hoped to raise a goodly sum in this country to show in some measure our appreciation of Dr. Miller's work and worth. Those desiring to help should send their donations to Dr. Abushâdy, Port Hill House, Benson, Oxon.

Keeping Records.—The editor of the *Domestic Beekeeper* advises every bee-keeper to keep a simple record of all colonies, showing when queens were introduced, when they swarmed, the amount of honey produced, when the various nectar flows started, and other valuable information. It is time well spent, with which most bee-keepers will agree. To be successful it is necessary to know when the honey flow is likely to start, so that stocks may be ready to take advantage of it, and the other items will help to do this. It is no good having colonies at their best just when the honey flow ceases.

An Apiary on Wheels.—The illustration on a cover of the *American Bee Journal* is an apiary—or bee house—on wheels in Carniola. Mr. M. B. Miklovitch, in a short article on bee-keeping in Carniola, says the sides of the wagon are double-walled and stuffed with straw. The hives are arranged in tiers, have only one storey, and are opened from the back. Handiness for transportation appears to be their only recommendation.

Checking Robbing.

[10532] I recently had occasion to unite two stocks of bees by the "flouring" method. On visiting them next morning I was annoyed to find a first-class robbing campaign going on. As only one stock seemed to be the robbers, and finding that carbolic cloths, etc., were of no avail, I decided to confine the culprits in the evening by means of perforated zinc; in fact, making a temporary Claustral hive. After giving them a day's rest, and finding that all was well, I released them, and was very pleased to find not the slightest attempt at robbing the following morning. If you do not think confining the bees does any harm, perhaps this simple method would appeal to some other beginners of the craft who happen to be in a similar awkward position, as it seemed to have worked well in my case.—A. E. PEARCE.

[Confinement will not harm the bees if they have sufficient ventilation. A good plan is to move the hive into a cool, dark cellar after confining the bees.—EDS.]

Skep-Bred Queens.

[10533] The quotation in your issue of August 18, from an article by myself in the *Bee World*, on queen rearing, requires a little explanation, or perhaps I should say reference to the context. The point that I wished to make was that when you had a skep-bred queen, raised by a strong colony under the swarming impulse, you were insured against obtaining one that had been raised by questionable methods employed by some large professional queen breeders. I would emphasise the word, "some." The best firms—those who take pride in their reputation and pleasure in working out the best possible methods—do not practice dry grafting, artificial incubation, baby nuclei, hatching into cages, and worst of all, the retention of virgins for several days in these cages. Where highly paid assistants are employed, the breeder saves much time and trouble by adopting these questionable practices, and increases his output and his profits. If you buy a queen from a breeder with whose methods you are not familiar you run the risk of getting something less than the best, a queen of normal appearance but of less than normal vitality. Breeders on a small scale are just as liable to fall into practices that produce less than the best. Dr. Miller's method of producing small numbers of queens for home consumption can be perverted to raise remarkably bad specimens.

In the article to which Mr. Hemming refers I was not recommending the skep as such. I was merely remarking that anyone who had had some insight into queen rearing practices felt safe when he had a skep-bred queen, meaning that the quality of the strain and the purity of the mating was all that he had to worry about. The bees themselves had done the preliminaries "according to the best possible traditions," and had not made use of any of the questionable practices mentioned above. I should like to say that I am bringing no charges of dishonesty against breeders who use these and other debateable methods: I am quite aware that they are the subject of much controversy; but I would prefer to get queens from breeders who, I knew, excluded them from their apiaries.

I have learnt to think kindly of the skep since I made the acquaintance of the American "gum," but the most affectionate supporter of this picturesque institution cannot claim more for it than that it is the best "fixist" hive. The controversy between the different advocates of the various types and sizes of "mobolist" hive is fiercer and more open. I for one could prove to my own satisfaction the utter impracticability and uselessness of the chest-of-drawers hive, used by all the best bee-keepers of Germany any Switzerland. Wherever there is vitality there must be controversy: one might say that controversies were the growing pains of progress. But are they pains? Some people like them.

JOHN PROTHEROE.

Rustburg, Virginia, U.S.A.

A Thankoffering Suggested.

[10534] This is the season of harvest thanksgiving in all our churches and chapels, but among the offerings of fruit, flowers and vegetables we seldom see honey. It struck me that seeing there is a kind of brotherhood among bee-keepers it would be a good plan to have a thankoffering for the honey harvest. I think it should be an annual thing, made in October, seeing that the honey harvest would be over by then. What I would suggest is that there should be one or more persons in each county that would accept honey during October for our hospitals, and that each bee-keeper should send one section, or a 1-lb. jar of honey, for every 20, or part of 20 stocks he has. Let it be a thankoffering for the honey harvest. Each county should send its honey to its own hospital, or one-half could be sent to the different hospitals according to their size; the other half could be sold and the money shared among them. It should be known as "The Bee-keepers' Annual Thankoffering for the Past Honey Harvest."

The above is only an idea that came to me. If you think it worth trying to put into practice, there it is.—J. SHORT.

[An excellent idea if it can be carried out. We know how much hospitals appreciate good, pure honey.—EDS.]

Multiplication of Bacilli.

[10535] Re your footnote to 10528 on page 457, "B.B.J." of the 29th ult., the text-books say: Taking a bac. cell to undergo a process of division every hour, in 24 hours there will be 17,000,000 individuals.—T. W. WHITE.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

G. W. (N. Wales).—*Confining queen to hive.*—Do not confine the queen permanently to the hive by means of a sheet of queen excluder top and bottom. Have you considered what is to become of the drones?

C. S. P. (Bucks).—*Using granulated honey for feeding bees.*—If the honey is granulated quite solid, so that it will not run, it may be put in boxes and put on the top of the frames in the same way that candy is used. If not solid enough for this purpose, you may mix castor sugar with it until it is the right consistency. The objection to feeding bees on syrup during the winter is that it is not practicable.

Major D. H. B. H. (Hants).—*Coverings on bees.*—The bees will be all right. It is advisable to pack the bees down for winter as soon as possible after feeding is completed.

Miss A. C. (Longton).—*Wintering nuclei.*—We doubt if the nucleus will winter on the top of another stock. It will be better to winter the two in one hive with a thin division board between them rather than one on the top of the other. It is quite possible to winter a six-comb nucleus alone, if there are plenty of bees and stores, and it is well protected from damp and cold.

A. G. S. (Yarmouth).—It is a well-known rule that no paper or magazine will give the address of any contributor without his permission. If you address a letter to the name, initials, or *nom de plume* of any contributor to c/o the office it will be re-directed and forwarded.

Honey Samples.

F. H. (Warrington).—There is nothing at all wrong with the flavour of the honey. It is a *very* good sample of light honey, and well worth 2s. per 1-lb. jar.

Suspected Disease.

Mrs. B. T. F. (Glos.), H. P. (Kent), J. R. G. (Lichfield), R. J. (Penarth).—The bees were suffering from Acarine disease.

Miss G. H. F. (Winchmore Hill).—So far as we could tell the bees had no disease. The syrup should only be lukewarm

Bee Shows to Come.

October 20 and 21.—Ayrshire Agricultural Association. Dairy Show, Agricultural Halls, Kilmarnock. 13 Classes. Liberal prize money.—Prize schedules from John Howie, Secretary, 58, Alloway Street, Ayr. **Entries close October 7.**

October 26 and 27.—Peterborough, Oundle and District Honey Show, in connection with Oundle Horticultural Show, held in Victoria Hall, Oundle. Gift Class: 1-lb. bottle of honey; no entry fee. Entries to be sold for Peterborough War Memorial Hospital Fund. 1st prize, value 50s.; 2nd, 10s. 6d.—Schedules from Mr. Sarjeant, Organising Secretary, Bank Chambers, Cathedral Gateway, Peterborough. **Entries close Oct. 21.**

October 29.—Herts County Bee-keepers' Association, Barnet and District Branch. Honey and Appliance Show, held in Wesleyan Lecture Hall, High Street, Barnet. Seven classes for members. Open classes: Three bottles dark or medium and three sections. Entrance fee 1s. Prizes, £1, 15s., 10s. Schedules from Hon. Sec., Norris S. Toms, 66, Fitzjohn Avenue, Barnet.

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½ CWT. of Extracted Honey for Sale, good quality. 1s. 3d. per lb.—D. COLE, Amber Green, Chart Sutton, near Maidstone, Kent. u.7

3 CWT. Light Cambridgeshire Honey, 168s. cwt., carriage free; sample 6d.—CLEAR, "Bee's Home," Shepreth, Cambs. u.9

3½ CWT. Light Leicestershire Honey, £8 10s. cwt., carriage paid, 28-lb. tins; sample 6d.—ERNEST HULL, North Street, Barrow-on-Soar. u.16

FOR SALE, 1920 Ford Touring Car, with English body, painted grey; electric lighting and starter; very little used; Dunlop tyres; Stepney; trial by appointment; privately owned.—Box 40, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. u.17

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Bishop's Stortford and District Bee-Keepers' Association.

OUR VISIT TO A PROGRESSIVE SOCIETY.

The occasion of the recent Bishop's Stortford Flower Show afforded us once again the opportunity of renewing some apicultural acquaintances with that quaint old Hertfordshire town, and brought us into pleasant personal touch with local friends of the craft, both old and new, and very gratifying it was to note the optimistic view of bee-keeping prospects in the district that prevailed, especially after so serious a period of depression as that experienced during the last few years.

An important influence in this connection no doubt has been the resuscitation of the local bee-keepers' association, which has focussed attention upon the subject, and consolidated the existing interests therein, and although the reorganisation took place only a couple of seasons ago, the results of that effort, as seen in the developments so far able to be effected, clearly justifies the enthusiasts who set their hands to the task.

The duty of adjudicating upon the honey exhibits at the show enabled us at once to realise the effect of this influence. The classes, including one of the dozen sections and another for interesting or novel exhibits, claimed thirty-one entries, among which was that perennial source of attraction, the observatory hive with live bees. Further, at the lecture and demonstration given during the afternoon the interest evinced pointed its own moral.

It may not be generally known that the Bishop's Stortford District can claim to be one of the most consistent in the county with respect to bee-keeping organisation.

It was well represented in the County Association of 1878, it formed one of the local branches when that association a few years later re-arranged its constitution, and from the time the County Association collapsed in 1886. The Bishop's Stortford Branch carried on an independent existence, and was for a considerable period the only part of the county where a bee-keepers' organisation survived.

Indeed, when about the year 1895 the foundation of a County Association was again mooted, the existing Bishop's Stortford "Bee Club," as it was then named, was actually suggested in other parts of the county as the most desirable nucleus around which the larger edifice might best be raised.

BISHOP'S STORTFORD ASSOCIATION'S APIARY.

The local worthies of that day would not, however, agree to the loss of independence and identity in a larger whole, continuing their own path, through various changes and vicissitudes, until a few years before the war, when the grim fiend of "Isle of Wight" disease had so decimated the district that the keeping of bees became almost impossible, its lengthy period of usefulness came temporarily to a close.

With the return of brighter prospects it is not surprising to find the local devotees of the craft turning their attention toward the resuscitation of their Association.

A number of the older supporters were still available, and primarily as the result of their initial efforts the Association has been successfully re-established. New friends continue to widen the circle of its influence, and as its practical programme is developed so its influence must increase.

Almost immediately the committee set to work on a co-operative supply scheme for appliances, which has been extensively taken advantage of by the members with considerable financial gain to themselves. Social meetings, lectures, visits to members' apiaries, and the usual Association work has been carried out.

This season the ambitious project of the establishment of an experimental and restocking apiary has been carried through to fruition.

It was our pleasure to pay a visit to the apiary in company of the Secretary to the Association, Mr. E. Percy Hussey, to whom is due the credit of conceiving its possibility, and who has borne the brunt of the labour entailed in its materialisation, including the expert work in connection with the stocks.

The location we found to be ideal for the purpose.

Easy of access, well protected on N.E. and W., with a clear flight for the bees to the south.

The shade afforded by rows of fruit trees has been taken full advantage of in the disposition of the hives, and the Association is to be congratulated upon the fact that it possessed so keen a supporter as Mrs. A. S. Barrett, who has kindly granted the use of the orchard at her residence in Chantry Road, Bishop's Stortford, for this purpose.

It will be seen from the illustration we are able to give of the apiary that a variety of types of hives, both large and small, are already in use, not forgetting the skep, with its modern supering arrangements, which in themselves provide a valuable object lesson.

Here, too, are queen-rearing hives with from one to six compartments, and it is intended to devote serious attention to the raising of queens, annual re-queening of stocks for profitable honey production being very strongly urged by Mr. Hussey, and a ready source of supply of approved and tested pedigree queens will be made available to members.

The apiary, too, will form a centre of the Association's activities, a home for lectures, demonstrations, experiments, and instruction in the practice of modern scientific methods of bee-culture.

Not the least valuable feature of the programme is its restocking scheme. It is intended, so far as resources permit, to assist members who may suffer heavy losses of stocks, and although the need for raising stocks for retention in the apiary has this season been paramount, and although it was only in May last that the apiary came into being, eight nucleus stocks have been raised and distributed, free of cost, to the individual members concerned.

Certain conditions are, of course, laid down as to disinfection of appliances where considered necessary, after an examination into the cause of such losses.

The conception and practice of such a beneficent scheme reflect much credit upon those associated with it, and, combined with the distribution of selected queens, should strongly tend to raise bee-keeping throughout the district to a higher level.

The exigency of space does not permit lengthy reference to the many other interesting matters that were brought to our notice, but brief mention might be made of what can best be referred to as an out-growth of the Association proper, namely, the amalgamation of a few of the larger apiaries on a definite financial basis for the purpose of effecting economy in working costs by the standardisation of equipment by the collective ownership of larger, better, and more adequate plant, and by the grading, marketing and handling of produce in bulk.

Mr. Hussey, who has brought this development about, assured us that sufficient working capital has been subscribed, that a market is available for all that can be produced, and that he has accepted the managership of these associated apiaries.

The finances of the Association, which are in the capable hands of Dr. J. Young, are in a healthy condition. Last year the accounts balanced at £67, with £3 in hand. That the Association has made good progress is evident, as for the present year, to the end of August, the accounts approximated £115, with a balance again on the right side.

As our all-too-brief stay drew to a close it became abundantly clear that our

friends in this district had grappled with some of the bee-keeping problems of the day in no uncertain or weak fashion, and it was our impression that if the accomplishments of the past two seasons could be taken as a just criterion of the future, then rosy indeed is the outlook for (bee-keeping and bee-keepers in the Bishop's Stortford district. If there are any of our readers in the district who are not members of any Association we strongly recommend them to join the Bishop's Stortford and District Association. The Hon. Secretary, Mr. E. P. Hussey, 46, Apton Road, Bishop's Stortford, will be pleased to give any further information, and to enrol new members.

Does Bee-Keeping Pay?

This is a question that we have been asked scores of time by those who are thinking of taking up bee-keeping. At the present time the query is a very pertinent one. Bee-keeping used to be described as a hobby, and is even now looked upon as a hobby by some people, but a hobby is a pursuit, or a pastime one follows as a relaxation from the daily grind of work, and is only expected to pay in the sense of giving relaxation and freshness to mind and body, but from a strictly financial point of view is generally carried on at a loss.

Bee-keeping does not, and should not, come under that category, and if carried on intelligently and on modern lines will pay, and pay well. This, no doubt, has been the experience of our readers. We have heard of very considerabe additions being made to income, and even of houses being built from the profits of an apiary carried on in spare time. We are desirous of having something tangible to show to those people who ask: "Does Bee-keeping Pay?" Unfortunately, not many bee-keepers keep profit and loss account of their bee-keeping, but we should be greatly obliged if any readers who *do* keep an account of their income and expenditure would send particulars for publication in the JOURNAL for the benefit of others who would like to keep an account.

It would be more useful if they could be sent from different parts of the country and from districts where conditions vary, viz., where fruit and other early blooms are the source of surplus, or clover, sainfoin, heather, etc. A few particulars as to methods of working would make the information still more useful.

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of September, 1921, was £5,890.—From a return furnished by the Statistical Office, H.M. Customs

A Dorset Yarn.

Bees are having a grand time here just now, a seven-acre field of mustard in full blossom. This was sown since the oats were cut in July. One noticed each day the pollen being brought in. I went into the next farmer's field to see. Several hours each day bees are on these flowers in countless thousands. The store in this field is considerable, or they would not be there so much. The soil is very dry, and some of the flowers are covered with aphis, but the majority are perfect. One would not have thought on such dry soil that these flowers would be so luring to the bees, they go in the same direction.

Saturday, October 1, was fine and warm, and bees were in evidence as if it were late April, when they go through the assembly in preparation for swarming. They may have been enticing out the young bees to find the field of mustard. I still notice that the purple mauve perennial asters are most favoured by bees. At the R.H.S. meeting last week, one of the growers said his men did not like to cull them, as there were so many bees on them; he had to carry them to the store himself, as the bees kept on them the whole time. He came from the West Country, near Bath, and is saving seed of this variety that has so many bees on the flowers, anticipating something good coming from this fine sunshine and the number of bees.

These plants are very floriferous and very difficult to destroy, and when thrown away they take root and carry on in most inhospitable places; in the Poole and Parkstone area they are wild and can be found in quantity.

Bees are stealing the sweets from the ripe fruit of raspberries, three and four bees at one time on each fruit. This is new to me. As I cut the ripe sprays of fruit to take up to the R.H.S. meeting last Monday, my assistant noticed that nearly all the ripe fruit was punctured by bees. I assume that the extra bright sunshine has brought more sweetness in the fruits; the absence of flowers in the pasture fields must send them to ripe fruit as well as the flowers. Thousands of the tops of rasps. are in blossom side by side with the ripe fruit. This abnormal season has brought the ripe fruits on the top, and the lower branches only are now in flower, while others bloom on the terminals only.

One of the growers told me of a large field of mangels grown for seed. When the experts went through them, to take out any that were not true to type, it was with "fear and trembling," so many bees were on them: it was not like walking with a gun through root crops in autumn, but the beet family, grown for seed, when done well, in good land, the stems of the flowers are up round one's face and ears as one walks through them.

All this is very interesting to the bee-keeper. A few plants of any bee-flower is a help, but when it comes to many acres at one time it must be a boon to those that keep many bees.

I went and closed down for a neighbour two stocks of bees; they were in Taylor's 12-frame hives, made with inch-board through-

out. The owner had not much surplus; they were swarms this year! and had to build up the 12 combs. By the time they had done this the dry time had spoilt most of the flowers, but the heavy combs of sealed stores were very attractive. The cappings were very white and clean; they were still taking in pollen and had many cells of uncapped honey. The sections (in racks holding four rows of seven) on one hive were not even drawn out. Where the honey-flow is early and the bee keeper wants sections, the brood chamber should be reduced until the bees start work on the sections before giving extra room in the brood chamber below. I have found this always an impetus to early sections. They will even start in a rack of drawn-out shallow combs before they will fill all the twelve below. Mr. Pinder, the expert of Salisbury, says in his area the majority of bee-keepers always give shallow combs to early swarms as they so soon fill them up with surplus. He is concerned about the slow selling of extracted honey this year. He showed me samples of very high-grade honeys from the best honey areas of Wiltshire. The distributors had large stores of foreign honey at less price, but the quality of our honey is infinitely better. The shopkeepers can buy foreign stuff at low prices and sell it at a better profit to themselves than with the high-grade clover and sainfoin honeys of Wiltshire. Why is it that our traders prefer to sell the outside stuff before our own production? It means that we shall have to have a Honey Producers' Co-operative Association to sell our own honeys in the large cities. In the Bournemouth Co-operative Society's markets at Westbourne honey has sold at good prices; there it can be bought by the people without the middleman. They do this in the Dominion of Canada, as I have a letter from Mr. Shepperd the secretary of the Honey Producers' Association (who had read my note on raspberries in the *Bee World*): this was from Nelson, in British Columbia. "It is no trouble to sell sections," says Mr. Pinder, "but we cannot unload all the extracted honey."—J. J. KETTLE.

Jottings from Huntingdonshire

This morning opened with a claret sky, not, however, a sky to give the shepherd warning, the colouring being due to the argent mist which clung lightly to the earth. This mist soon began to curl upwards in vaporous clouds, which vanished and gave the sun free access to the earth. Dewdrops hang thick upon the grass and glisten like diamonds set in lengths of beryls and emeralds. The sun gains power and they evaporate, moistening the air and creating a humidity so necessary to growth. The fading pomp of summer is eclipsed by the grandeur displayed by autumn. In the stubbled fields, surrounded by hedges splashed with purple, red and brown, the tractor skuttles to and fro. Daws and rooks sit in the elm trees scolding their disgust. Did the farmer understand what they were saying, he would pause and think. I know what they mean by their incessant chatter. They, like the rest of us, need a morning meal, and in that upturned sod there is all they need; wire worms, leather jackets, and a thousand other creepy, crawly things of which the land would be well rid. They would follow the tractor were it not for its speed, its clatter, and the fumes it emits behind, and by the time the implement is a respectable distance away the many legged insects have wriggled themselves beneath the earth to await the time of doing damage to the crops. Ah! Three fields away are two teams just beginning to plough, and amidst a cawing and clacking the birds fly thither, following the ploughs up the furrows, eating their fill and dancing their delight. The sun is well up now, and bees come out in crowds and find the day is good. Every queen, except two, is laying, and pollen and nectar are coming in fast. Refreshed by the recent showers, and warmed by the genial sun, the knapweed and hawkweeds are flowering again as if the year had five months to run. The cat's ear and mouse weed are sprinkling the meadows, now green again, like stars of gold; much clover, so long dormant in the drought, is pushing forth flowers and the ivies are alive with bees. A message comes from one of the cottages to say there is a swarm of bees in a tree opposite the door; but on my going to see I am able to say that the bees are not swarming, but rioting in the ivy bloom with which the tree is covered. The whole apiary seems independent of outdoor feeding now, the bees are happier midst woods, hedgerows, coppices and meads. Honey is being stored, and in October, too! and breeding is going strong. As for the stock which sent forth a swarm three weeks since, they will soon swarm again, and I cannot stop them. Hived on frames 10 by 8, with a crate above, I cannot give them more room, the size and shape of the hive will not allow. Nor can I extract a comb, as everyone has brood, so breed on ye Dutch and swarm if ye will, our wayward selves will give you habitation, but what do you by this foreshow? Is it a long winter ahead for which you are preparing with your crowds of young bees, or are we to expect a short cold spell at the time when we would herald the coming spring? Few drones are left, but I can give you a mother, for I have still a hive containing two queens. Swarm then, I shall be ready. But let us go to the stream side and see what's there. The bed is still dry. The rain has not yet touched the springs, not reached the drains which carry surplus moisture from the fields, yet the willows stand and flourish, their roots are well set. Many are hollow within—a sanctuary for spiders who have woven their webs so cunningly as to catch every fly which flew thither for shelter during the lengthening nights. Happily no bees are enfoiled, although I note a wasp or two enmeshed in those gossamer nets. Ripe, red berries, good to look upon but not to eat, trail themselves amidst the hips and haws less thick in the hedgerow than is usual on this quick fence running parallel with the course of the stream. Wonderful company is the earth and her beauties, her speech is rich in lessons that all could, but only few care to learn

The secrets of field and hedges are not to be learnt in a day or a month, only the passing of seasons can reveal them, the morning mists and the magic creeping twilight, each offer their glimpses of the earth's own soul The soul of the earth is more wonderful than the soul of the world. And yet, as the ages roll on men still seek to herd in towns, cramping themselves in small places, and content to lose their identities with thousands more. Methinks I hear someone remark "Likewise the bees." Yes, but bees go forth to revel among the loveliest things Nature has provided—flowers. *Filius terræ* was not always used as a complimentary term, but who knows the depth of the souls enshrined within the sons of the soil? Has not someone told us of the gardener who felt pain when he accidently divided a root of some choice plant and who employed his son to do transplanting because the plants understood his gentler touch and grew the better for it.

Stay with us longer ye genial days, cheer us and the bees, for the fieldfares are here in numbers, and the little grey starlings return in flights from the Norwegian vales, the robins come upon the window-sill to sing, signs of the drawing near of winter's stormy days, and have not most of the swallows and martins flown away to moult their feathers in a warmer clime.—F. F. HEMMING, Steeple Gidding.

Notes from Gretna Green.

The past season was my twenty-fifth among the bees, and, as regards results, quite the best on record. For the first time in my experience a single spring stock gave over 200 lbs. in sections, and also for the first time my honey sales have exceeded £50 all from five section-supered colonies. I began the season with six, but one stock was set aside solely to store up winter supplies of good ripe clover honey for distribution over the others after supers were off and fifty standard size combs of stores were secured. They were all required, as the heather flow was so light that hives were left full of bees and brood but with stock combs almost empty of honey. This was a most unusual state of affairs, and probably due to the nearest heather being almost all destroyed by an underground fire of several weeks' duration

In reply to Mr. Kettle and other inquirers *re* the dual-queen system. I had some interesting experiences in applying this principle to heather honey production, and will give details later.

It is not generally known that an ordinary hive of the W.B.C. type is quite adaptable to the dual-queen system and can easily accommodate two ten-frame colonies, each with its own queen, and separate entrance

The inventive genius of Atkinson has made this possible by the simple expedient of using two five-frame stock boxes, one above the other, in place of the usual ten-frame brood chamber, reverting to the latter during the actual honey flow only.

Personally, I consider this principle of adjusting the depth and shape of brood chambers is a most valuable feature, and hope Mr Atkinson will let us have some luminous contributions on the subject.

Mr. Armstrong, in his sketchy, graphic contribution, and Mr. Blair in the "B.B.J." of September 22, make mention of my partiality for imported Italian queens. True, every Penna and Bozzalla queen I have had were entirely satisfactory, while home-bred Italians, introduced last year, were the very opposite. Possibly the disastrous season of 1920 was responsible for the drone-breeding queens and spring-dwindling colonies that afflicted me early in 1921.

Yet the one queen I had reared and mated here in 1920 was the very best in my apiary this season. Her stock (golden Italians) was divided in June and the removed portion given a Punic queen, with the result that I duly harvested 220 sealed sections from the two colonies. None of my other stocks approached this figure.—J. M. ELLIS.

Gretna, September 23.

Norwich Notes and Notions.

The editorial seasonable hints for September 22 states that candy is an emergency ration. It is not so. Why I advocate candy is not because of commercial reasons, as I do not build castles in the air from what I expect from bees, the pleasure to me and many is far more than the profit side. The candid reason is this: Bees on the verge of the close season, if combs are full of stores, settle for the winter early. This, to my mind, is a fruitful way to ask for losses, unless, mark you, they are kept a little active with consuming candy. Bees that are not active for a long spell get sluggish. Candy, of course, is not meant to be taken down wholesale; this is where syrup feeding comes in. Syrup feeding wholesale is great excitement; if not, then the combs or stores are not sealed. Should a cold snap set in the bees would winter on unsealed stores, which means damp or bad food, and in many instances loss of stock. Undue excitement wears out and ages bees, and taking syrup down does this.

Candy or very slow feeding keeps a stock contented and quiet, stops bees from being stingy, also from being on the prowl for robbing other stocks. This means something worth aiming at.

An ideal winter stock for stores, etc., is standard combs, to be partly full, part-empty combs for bees to cluster on. Why do not bees store all in the middle combs and not at the side? It is because they like empty cells to cluster on. To make up full store, put a full shallow frame rack with stores; failing that, then a good slab of candy. This is where the large-frame argument comes in—ample stores at top and empty cells for cluster at the bottom. It is not hygienic for bees to cluster on full-sealed combs of stores all winter.

Our best stocks about here have partly-filled standard combs and a big slab of candy on top. This year I am making boxes half the size of section rack with glass on top,

candy in the box. I can then see the bees and stores in winter without undue disturbance.

Candy and thin syrup in spring help and save the bees, also saves the bees from risking bad weather to get water for the brood. Bees will not venture far now breeding is stopped. In short, candy keeps the bees amused or prevents them from eating the winter store of honey too early. I have yet to lose a stock on candy. I have with syrup and foreign honey. It is annoying to lose a well-fed stock after spending a lot on syrup when you can add candy from time to time. —A TROWSE.

[There can be no two opinions that winter stores should be sealed over in the combs, and every effort should be made to secure that condition, and, so far as we can make out, Mr. Trowse is in agreement with us on that point. If for any reason it has not been possible to do so, the best thing to do in the emergency is to use candy, and it was in that sense we said candy should only be looked upon as an emergency ration. Much of the rest that Mr. Trowse says is beside the question.—EDS.]

North Cheshire Notes.

The glorious September that is just past has kept the bees busy on such flowers as they could find. The result in some strong stocks has been to stimulate the queen to lay more eggs than usual, with this result, a depletion of winter stores. Many hives will be found with less stores than a month ago, owing to this increased brood rearing; the brood consuming more food than was coming in. I therefore counsel bee-keepers—novices more or less I have in mind; bee-keepers of experience can be left to look after themselves—to look to their stocks, especially those that yielded a surplus, and see that there are ample stores, and, if required, a cake of candy should be given. So long as the present warm nights remain, thick syrup can still be fed where necessary. There is this advantage in abnormally late breeding, that hives are packed with young bees, that will "carry on" well into next spring.

Will all those who kindly replied to my query, re autumn fruiting raspberry canes, accept my thanks for the information conveyed, as I am unable to reply to all personally? D. J. HEMMING.

Appleton, October 4, 1921.

Cotswold Notes.

THE BURDEN OF RAILWAY RATES.

I heartily agree with the Editor's remarks as to the high and sometimes unreasonable cost of railway charges for the conveyance of live bees, honey, and bee products.

Particularly does this apply to the passenger service, which ordinarily offers the best means of transport of the fragile and perishable lines handled by the apiarist.

As one who distributes during the season a considerable number of colonies, and also honey in various packages, I find from experience the serious handicap this is to trading; inasmuch that the cost of carriage frequently amounts to fully half the worth of the articles forwarded.

Especially is this the case where care is not exercised in selecting the lightest possible form of packing.

An adequate reduction, and some provision for bee products to be forwarded at the lower owners' risk scale—if desired—would be a welcome relief to all those engaged in bee-keeping. From an exhibitor's standpoint, I feel that county shows will never receive full support from away until the old rates are revived.

In this case, County Associations might do good work by bringing pressure to bear upon the companies concerned with this object in view, and I trust that some concessions will be obtained as the result of this present correspondence.

A. H. BOWEN,
Cotswold Apiaries.

Black v. Foreign Bees.

You have in the BEE JOURNAL of September 15 an article from Mr. Atkinson in reply to one which appeared in your issue of June 25 on the merits of black versus foreign bees.

A similar letter appeared in an Edinburgh paper, the *Scotsman*, and my attention was called to it, not by a bee-keeper, but by a gentleman who thinks there could not be anything better than the native products of our country, either in man or beast.

I, of course, challenged some of the strictures levelled at foreign bees, and I certainly do not agree with the statement that they are the cause of the disease, or in any way responsible for it being in our midst

But between the wholesale condemnation of either native or foreign bees, and the crediting of all the virtues to either race, there is a wide difference What about a judicious blending, even if you do get a mongrel?

Again, will the climate of the particular part of our island home not have a great deal to do with the success or failure of either Italian or black bees as honey gatherers? Comparisons may be odious, but here are a few:—

Nineteen hundred and eighteen as a honey year was peculiar. June and early July as a honey season in most places here was indifferent, cold and high winds kept the bees from storing much surplus. I had strong stocks of Italians, and one stock of blacks working alongside each other; two Italians were going into each Italian stock for one bee that went into the blacks. The Italians *darted* in, the blacks *crawled* in. The reason was obvious, but to make sure I tested them. *The blacks were going in fully loaded, the Italians had not half a load.* I usually clear off surplus at mid July; there

is nothing after that but the lime trees. I had a fair return from the blacks, but a very poor crop from the Italians

Then it became very warm, we had a fortnight of splendid weather; the supers I had returned to be cleaned up were refilled and sealed. The Italians did well in the good weather, but the stock of blacks did its share.

This year has been, here at any rate, *the* year for anything in the shape of a bee. Our worthy civic chief had two hives of bees in the spring, one of blacks, one of Italians. Both were in good condition and were supered about the end of May. Both were on twelve standard frames of comb. The black finished the season with 100 sections to its credit, and more than ample stores to carry it through to May next year. After I removed three combs of stores to give to the Italians.

The Italian stock swarmed. The combined surplus from the swarm and parent stock was 76 sections, and there was not 10lb. of stores in either brood nest; both had to be heavily fed. There was no scarcity of bees or brood in either; there was ample of both also in the blacks.

I have a small apiary in an orchard three miles from my main apiary. Two stocks blacks, spring count. I wanted increase, so both were swarmed. Ten days after one of them decamped; the other did a shift when I was on holidays. I got 80 sections from that apiary, and four stocks have gone into winter quarters with ample stores and no feeding.

I am inclined to back the blacks as honey gatherers, even in a good year

Now I would like to say a word about the disease-resisting qualities of blacks and Italians. So far as foul brood is concerned, is that not a matter for the bee-keeper. It should never get a hold of a stock, but be put under whenever it appears in any stocks, and that without destroying either bees or combs. In 1914 a gentleman in this district got a stock of bees from Cork. I was asked to unpack it, which I did. It was an Italian. I removed bees and combs out to the back lane and made a bonfire of the lot the owner consenting. I would not like to have so much foul brood in a dozen hives as there was packed into that stock.

The one disease that Italians may be useful in combating is "I.O.W." disease, and it is the extreme prolificness of some of the queens which gives that race the advantage—if it has any—over the blacks.

Up to a year ago, when we were groping in the dark, some races might be considered better than others for resisting it, but after Dr. Rennie's discovery I cannot see how one race can be any better than another for resisting that scourge. The last outbreak I had was in 1917, and it was in an Italian stock that came from a dealer that never had disease in the apiaries, thanks to Flavine. I lost no stocks, nor have I lost any since with that disease.

In 1918 I gave a stock of blacks to a friend, after they had been treated. He has them, or their descendants, still. No trace of disease has been seen in them, and they have had nothing done for them to combat acarine disease since they left my hands; a good enough testimonial to the disease resisting qualities of the blacks. It is only fair to say the queen I sent out was mated with a yellow drone.—J. C. A., Grangemouth.

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Two Queens in a Hive.

[10536] In reply to 10,521 Mr. Ellis had two queens in some of his hives to get up an extra strong population for the heather flow, which was about due.

His intention was to place two queens in one brood box with an ordinary division board between them, and each on six combs, sections piled on separately, not a section rack common to the lot, as in the Wells type of hive.

When I saw them the extra queen was on top of surplus chamber, there being an excluder between, but I saw no separate entrance for the top lot.

The hive with 72 standard frames of comb is easily explained. His hives consist of packing cases, into these are put the racks containing the standard combs. The top rack consisted of two 6-frame racks placed side by side, and at the height quite heavy enough to handle, and six racks of twelve combs each, gives the seventy-two on one hive. This was for bee food, and a very wise arrangement, saving a lot of work feeding in the autumn.

May I be allowed a word to Rev. D. J. Hemming? I had a look at the hive from which Mr. Ellis got the 240 sections—when I saw it on July 21, there were 200 sections on, five racks of forty each. The top rack, at any rate, was ready to come off. Cheshire should be as good a county for bees as Dumfriesshire, or so I thought when I lived on the borders of the county, but I do not know Appleton. His three racks of sections and 13 lbs. of extracted honey from a swarm of June 9 will take some beating.

I may also say there is no opening for a marriage business north of the Tweed, the law is now that one of the contracting parties must have lived twenty-one days in Scotland ere a marriage can take place, and if one of the prospective candidates for matrimony comes from England, he or she must bring a certificate from a reputable person that the party is not already married; but Mr. Hemming will know that. Would have replied to "J. S. G." earlier, but was from home at the week-end, and could not find time before I went away.—J. C. A., Grangemouth.

Foreign Bees and the Incidence of Disease.

[10537] Regarding the long article of Mr. Atkinson (page 429, September 15), in which my name is mentioned, I am not going to waste time and space in the "B.J." over it We all have our ideas on the subject and want to hear about interesting subjects.

Regarding English bees, I know nothing about them, and don't want to, as my hybrids are Italian and Cyprus bees, where I have been and seen them working. The result of the cross gives a golden bee, and a large black drone, which results in a wonderful queen. Kept in large hives. I am busy with these, so I will say no more.—C. TREDCROFT.

Judging by Points.

[10538] In your Editorial of "B.B.J." for September 22, I notice that you in very few sentences dispose of the judging by points at our Kilmarnock show. I am afraid that if the point of view that you present be allowed to pass, the impression may be given that all bee-men are up against the judging by points, which is not at all true. I write as a Scotch exhibitor of a good many years' standing to say that along with many others we value this system very highly. As learners (and who is not a learner) we have very few other means of finding out the failings or good points of our exhibits. From an educational point of view there is something to be said for it, and one of my most valued trophies of showing are cards with full marks given for exhibits, whereas had there been no such system in existence these facts would only have been hidden in the sealed book of the judge's mind. As one also who has occasionally acted as a judge, one of my difficulties has been a certain standard for a given excellence, and I always felt that the unsuccessful and those coming at the tail end of things never know why their honey was rejected for another I always feel they had the right to know I cannot venture to criticise further, but to my mind the position you take up is not logical. The most of the other departments are judged by points at the Kilmarnock show: even the cattle in Ayrshire are being judged by points, and that system works well, and we believe it to be an advance in another direction towards progress. It is not enough for a judge to say this is best and that is next, and so on. The public, and especially the showing public, want to know where it is best.—I recently had an old friend home from Canada: he is a good judge of cattle, and acts there frequently, and says he has often had to say in public, "Why the awards?" I believe you are quite mistaken as to shrinking from Mr. Tinsley's job Those who know him I am sure feel he is quite equal to this task, and that he will acquit himself well. I herewith enclose my card, while signing myself "AYRSHIRE."

[We are afraid our correspondent has somewhat misunderstood our "points." What we said was we do not like judging by *fixed points* Not "judging by points," "Ayrshire," but we have even greater objection to having to put all the points down on a card, the educational value of which is lost unless the exhibitor can attend the show and compare his honey and card with the others. We had not the slightest intention of throwing any doubt on the capabilities of Mr. Tinsley; no matter who the judge was, we still would not envy him the job. This matter is dealt with very fully in "Producing, Preparing, Exhibiting and Judging Bee Produce," Chapter V., to which we refer our correspondent. The following quotation from it will illustrate our view, "A wise judge will refuse to be tied down by hard and fast rules, but will make his awards on points of his own arranging by the only safe method at arriving at those points, *i.e.*, by comparing the exhibits placed before him at any one particular time"—EDS.]

Foul Brood.

[10539] The Editor's remarks on the above, also Mr. Gibson's are most valuable.

I am a great believer of Bacterol, and use it a great deal as per instructions. I saved a hive, affected with foul brood, with a frame feeder, filled with warm syrup, medicated with Bacterol in the centre of the brood The fumes are given off in the nest, and bees fed from the trough, and also fed the young larvæ. A very steady hand must be used to put it down

On spraying front of hives with Bacterol solution in hot weather, the bees crowd the alighting board, and front of hive, to lap it up and run off inside with it if slightly warmed. In fact, this past hot summer, they seemed to wait for me at times. Fountains seemed out of the question owing to heat.—CYRIL TREDCROFT.

Legislation.

[10540] I am glad to see that a gentleman, named Tom Sleight, is courageous enough to oppose the powerful advocacy of the Editor of the B.B.J. for legislation for bee diseases.

What we want is investigation, observation, experiment and publication—nothing more.

I have a fair number of healthy hives. Is it suggested that my neighbours are careless enough to spread disease to my hives, and, if so, for how long? If a bee-keeper neglects his bees he loses them. Will he replace them and continue to lose them, and, if so, how many times will he do it? The best thing that could happen to bee-keeping in this country would be the elimination of lazy and ignorant owners of bees. If only a partial remedy is at hand, be it by acquired immunity or by prophylactics, good bee-keepers will be safe. Without it we are undone. Inspection will accomplish nothing for the good reason partly stated by Tom that without "a host of inspectors" continually "spying around" you will not get near the fringe of the legislative remedy.

However, I hope this criticism of the

Editors' rejoinder to Thomas will lead once more to a full statement of the case for legislation, and then I hope to be able to help T. S. to dispose of it, if we are permitted to do so.—J. SOWREY.

[We are much obliged to Mr. Sowrey for his letter. He has put the case for legislation in a nutshell. As we do not know his neighbours, we have no idea what they may do, but we do know what has happened in a great many other cases. If anyone who owns bees loses them simply and solely owing to neglect, apart from disease, no one but himself would be the loser. The trouble begins when, owing to neglect, the bees become diseased. One who neglects healthy bees is not likely to trouble much with diseased ones, but leaves them to chance, and, in our opinion, once is too often to allow that to occur. The very fact of there being legislation would automatically tend to the "elimination of lazy and ignorant owners of bees."

If our correspondent does not know "the case for legislation" by now, we advise him to look it up in back numbers of the JOURNAL. We have no intention of starting a discussion for the benefit of anyone who has apparently learned nothing from those of the past.—EDS.]

Treating "Isle of Wight" Disease.

[10541] I am quite a novice, having started bee-keeping in the spring of last year, so I am not giving an opinion, but will merely state facts as they occurred.

Early in February last I noticed, on days when bees were flying, many dead bees in front of a hive, and many crawling and unable to fly.

February 16.—I gathered up thirty or forty dead bees from in front of the hive, and sent them to Dr. Rennie for examination.

February 21.—Dr. Rennie's report received to the effect that 50 per cent. of the bees sent were affected by Isle of Wight. He subsequently followed this up by a leaflet of the Ministry of Agriculture advising destruction of the stock. I did not do so, but stripped off the quilts and sprayed thoroughly over tops of frames with warm 25 per cent. solution of "Yadil," covered up warmly and fed a little warm syrup "Yadil," medicated.

February 28.—Crawling practically stopped, and although bees flying, only three or four dead in front of hive.

March 6.—No crawlers or dead bees Sprayed again.

March 20. No more crawlers, but sprayed for last time

May 20.—Re-queened.

From this on the stock rapidly became strong and gave me 56 lbs. honey.

Experienced bee-keepers consolingly tell me that the disease will reappear in the winter, but I shall spray with "Yadil" before packing for winter, and medicate syrup and candy with the same preparation.

I might tell you of another crawling stock entirely cured, to all appearance, by "Yadil" spraying, but in that instance I did not wait for examination of the bees, but dealt with it as above. Consequently there is a possibility that the crawling may have been due to other causes, and in any case there is no scientific evidence that the bees were suffering from Isle of Wight disease, so I merely mention that in this case the bees were crawling in large numbers, and that "Yadil" spraying stopped the crawling, and the stock is now strong and healthy, to all appearance This stock, a three-frame nucleus in June, gave me 33 lbs. of honey.—J. E. YOUNG

Judging Honey.

[10542] At the Conversazione of the B.B.K.A., Mr. Richards spoke on the best way to spread the knowledge of bee-keeping. His great point to me was the necessity that those who gave demonstrations and lectures should become fully acquainted with the best writers on bees, and become qualified to take their examinations and obtain the certificates of the Association. To me, this was very good, but I think those who take upon themselves the work of judging at shows should acquire the necessary knowledge to do so efficiently. I think it would tend to remove a lot of the grumbling that we hear. You gave us in the JOURNAL for September 22 a standard of points to be used at Kilmarnock, which, as you say, involves a lot of work. But if you have definite rules or points to work to, it somewhat relieves the judge from setting up his own standard. Now, every judge can obtain from your office the standard for colour, without which a judge may do an injustice to an exhibitor. As a case in point.

I was an exhibitor at a show, and the judges disqualified my exhibit, as they said it was not light honey, but medium. Now, Mr. Editor, I enclose a bottle of the honey, for your verdict and your decision will show the necessity of my contention.

If all Associations were to agree to a given standard it would greatly encourage bee-keepers to become exhibitors.—E. H. GARRETT, Broadstone, Dorset.

[The honey should have been classed as light. It would be very easy for the judge to make a mistake if he had not the standard coloured grading glasses in order to test the colour, as it was only just light enough for the light class.—EDS.]

Two Queens in One Hive.

[10543] The reports of two queens in one hive are now fairly common. Although this is a circumstance which is a temporary one, and more often happens with Italian bees, yet it is surprising that bee-keepers overlook the fact that it is most often brought about by their own manipulation of the colony.

Just the other week I had a similar experience with a Dutch colony. The particular hive was on the heather, and became so crowded with honey in the brood-nest that I found it necessary to remove four combs solid with sealed honey.

At the same time, I gave four frames of foundation in the centre. These were soon worked out. The Dutch queen was removed,

and another of different strain introduced, which was accepted. This queen layed all to one side of hive, and when I examined the hive later, I found a virgin queen present, as well as the one I introduced, the two queens being separated by the frames of foundation I inserted formerly in the centre of the hive. At the other side (on which the virgin was) there were many torn-down queen cells. I saw that the foundation I had given was the cause of the queen cells having been raised. I therefore killed the virgin, shifted frames, putting queen in centre, and now all seems well.

This was not supersedure, but due to a disorganised state of the brood-nest. It is on the same principle that most queen rearing is conducted, foundation, at certain times, having the same effect as queen excluder zinc.—A. G. Ratt.

September 24, 1921.

Bee Shows to Come.

October 20 and 21.—Ayrshire Agricultural Association. Dairy Show, Agricultural Halls, Kilmarnock. 13 Classes. Liberal prize money.—Prize schedules from John Howie, Secretary, 58, Alloway Street, Ayr. **Entries close October 7.**

October 26 and 27.—Peterborough, Oundle and District Honey Show, in connection with Oundle Horticultural Show, held in Victoria Hall, Oundle. Gift Class: 1-lb. bottle of honey; no entry fee. Entries to be sold for Peterborough War Memorial Hospital Fund. 1st prize, value 50s.; 2nd, 10s. 6d.—Schedules from Mr. Sarjeant, Organising Secretary, Bank Chambers, Cathedral Gateway, Peterborough. **Entries close Oct. 21.**

October 29.—Herts County Bee-keepers' Association, Barnet and District Branch. Honey and Appliance Show, held in Wesleyan Lecture Hall, High Street, Barnet. Seven classes for members. Open classes: Three bottles dark or medium and three sections. Entrance fee 1s. Prizes, £1, 15s., 10s.—Schedules from Hon. Sec., Norris S. Toms, 60, Fitzjohn Avenue, Barnet.

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BARGAINS.—Carpenter's Tools cheap; pure White Leghorn Cockerel (Padman's), five months, 12s.; Gramophone and Records, 55s.; good Extractor, 37s. 6d.; 13 lbs. pure Welsh Honey, £1; all delivered.—DAVIES, Ffynonlwyd, Conwil, Carmarthen. u.22

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For some months we were killing more bees than Wax Moth larvæ. But at last we hit upon a chemical combination that drove the Wax Moth larvæ from their webs and caused them to fall upon the Pad, where the bees could deal with them.

Then came the discovery by Dr. RENNIE and co-workers of the mite Tarsonemus Woodii. At once we made a few experiments, and found that by adding one more coating of another chemical we could kill the mite without injuring the bees. Within a few hours after placing the Pad, dead bodies of acari were to be found all over its surface.

To obtain independent testimony we sent a couple of the Pads to the Rev. G. H. HEWISON and asked him to please test our claims. Below is his answer :—.

"Marr Vicarage, Doncaster, 3rd October, 1921.

Dear Sir,—I placed one of your Eclipse pads under a stock of bees which was heavily infected with the acari—Tarsonemus Woodii. After twenty-four hours I removed the pad and examined it microscopically. I was able to locate a large number of dead acari on various parts of the board. Unfortunately I was not able to photograph the acari, as I should have liked to have done, as the material with which the board is made prevented me getting a satisfactory light on the acari. However I am able to state that a large number of dead acari were on the board, and no doubt were killed by the chemicals with which the board is impregnated.

I am sure that all lovers of the Honey Bee must be grateful to you for your endeavours to find a cure for the disease.

Yours faithfully, G. H. HEWISON.

S. H. SMITH, Esq., 30, Maids' Causeway, Cambridge."

We should like every beekeeper to test the Pad during the winter of 1921–22, as it may be left on the floorboard all winter without any bad effect on the bees. But the present price of chemicals and drugs is too high to permit of giving away samples.

We can make the following offer : If the Pad does not prove effective your money will be returned.

S. H. SMITH,

30, MAIDS' CAUSEWAY, CAMBRIDGE.

Seasonable Hints.

All the work among the bees should now be finished, and the bees packed snugly down for the winter. The exceptionally fine, warm weather we have had this month will, no doubt, have tempted some to continue syrup feeding beyond the time it is advisable to do so. No more syrup should be given, but if there is any doubt as to the amount of stores any stock is provided with, it must be made up with soft candy. In such cases we prefer not to give the candy now, as if that is done while the bees are still active, it will be liquefied and stored in the combs and may not be sealed over. If the charlock is blooming, and being worked by the bees, as a field of it is just over the hedge of our apiary, there will be quite sufficient unsealed stores of honey without any addition of syrup. On Saturday and Sunday last the bees were working on it very freely, often two or three bees on one plant. There is more danger from unsealed stores in the weaker colonies than in the strong ones, as the latter probably still have a fair amount of brood that will use up all or nearly all the newly-gathered nectar.

When packing for winter do not forget to supply winter passages under the quilt. A couple of pieces of wood half an inch square and just long enough to rest on the two outside top bars, 13 in. will be about right to cover ten frames, and 10 in. for eight frames. The ends of the strips should be pared down, to allow the quilts to fit down snugly all round, so that no draught holes are left.

Cotswold Notes.

One is sometimes asked why a stock, even in a poor season, will frequently yield 40 to 50 sections, whilst its companion may give little or no surplus.

I think I am not far out when I say that this depends almost entirely on the egg-laying capacity of the queen, and the strain of workers her eggs will produce.

Some queens produce thrifty bees; others do not. Young queens begin to lay about Christmas time, and they continue to do so, notwithstanding bad weather, right through the spring, provided their larder is well stocked.

Such a colony will be one of the giants in the apiary by May 1. Should this month—like last May—be warm, it will fill a rack of sections off the fruit blossoms, and, if June and July are seasonable, it will complete three or four more supers while the flows are on. But the ordinary stock which allows itself to be influenced too much by the weather will do little more than cast a couple of swarms. On May 1 it will cover no more than five combs. In my opinion the only possible way to have one's colonies at concert pitch by early May is to make sure they are exceptionally strong in bees, well stored, and have young queens in early autumn.

All queens discontinue egg-laying during August, more or less, the difference between old and young queens at this stage being that the former rarely start again, whereas the latter will, without stimulation, produce several successive batches of brood during late August to the end of September, when breeding will, in a normal colony, cease for the year.

If, therefore, a young queen is given in August as much brood as the colony at this period can properly care for will be produced, provided always that stores are ample for the bees' needs, and outside sources still yield nectar.

Assuming that breeding was well maintained through July, there will be plenty of bees in each hive to crowd a brood nest of ten to twenty combs when the supers are finally removed. Weak lots can be best strengthened by uniting two or three together.

It is well nigh impossible for the colony which has yielded a good surplus from one brood chamber of ten combs to have room for more than 18 to 20 lbs. of natural stores in the comb space not occupied by brood.

Since this is hardly enough, it is a good plan to anticipate it during the extracting season, and to have one or two reserve supers of honey put aside on colonies ready to be drawn on during the autumn examination.

Larger hives or deeper combs would render this unnecessary as the brood chamber capacity would serve to hold all the food required by a strong stock. Feeding when necessary should be early and rapid so that it can be stored without wearing down the bees, and creating undue excitement and out-of-season breeding.

To sum up, the nearer fall preparations for winter conform to bring about the conditions which are found in a normal healthy stock left entirely alone the better will the bees winter.

Regularity can be obtained by making one's colonies as equal in strength and stores as practicable.

Generally speaking, the earlier bees are allowed to quieten down after Sept. 7 the sooner will they liven up in the new year for brood rearing. It is this fact, and not late fall breeding, which is one of the three keys to strong colonies in spring, and fewer winter losses.

A. H. Bowen.

Bee Notes from Derbyshire.

Having spent the last three months in trips to the heather and other visits up the Western hills out of Clay Cross, I thought, on October 3, a trip to Chesterfield and out east to see what the clover prospects were for next summer would be a change, for all true bee-keepers are always looking ahead to see where the next crop of flowers are coming on. After the dry September we have had, the present best bee flower to be seen is the Michaelmas daisy. What a quantity I saw everywhere on this trip! From that and the mignonette the bees have been bringing in large quantities of pollen these last few days. Ivy was here and there just coming into bloom. I am afraid the clover crop for 1922 will be a poor one in many places, unless they leave seeds to stand a second year. There is not half a crop, and none in some fields, so they are ploughing them up again. The best field I saw in a 20 mile run is not a hundred yards from Clay Cross Works, and lies very low in a hollow. It is nearly all alsike, and looks a treat; two other fields at Tupton had come fairly well. Another I saw at Birdholme looks a good plant, but anywhere on hilly, shallow soils the dry weather has beat it. One field I saw at Stainsby was a good plant round the sides; all the middle of the field was bare. Just here I passed the apiary of an old lady, which had escaped the "Isle of Wight" disease, and she has had good takes of honey for the last ten or twelve years to 1920, but it cleared her out last winter to one stock, and it has swarmed and cast, but she had taken no honey this year and none last. Going up the hill into Dull Hucknall I notice how green the trees are still looking, only the limes seem to be casting their leaves. At Rowthorne, that famous clover honey country, only about 20 lbs. of honey was gathered by the one stock there was there; now there are three. "Been too dry," the bee-keeper said. The clover was burnt up before the bees got a chance on it; and, being shallow soil on limestone, the clover plant for next season is looking very sickly indeed. All the way I kept on that soil I saw scarcely any new clover. As there had been very little rain through September, everything about there looked parched up; and the fields of swedes—poor little things—all eaten up by the mealy bug till there was hardly a leaf left on them. So I pass on by Newbound Mill to Skegby and Stanton Hill to Stanley, where I call to see my old bee-keeper friend, who first started me with bees 22 years ago. He has been in and out of bees a good many times in all those years. I should think *he* has sent as many swarms to populate the trees in Hardwick Park as anybody. The times he has raced across the fields toward Hardwick after them, to try and locate the rendezvous—but they always beat him when he had to climb the hill beyond the valley. This year he had none to send, so a few of them came back; viewed the old home, thought it looked none so bad. Next day a few more came and did a bit of cleaning up; then eventually, on June 17, a swarm of English blacks came, and he said they did work, for in three weeks they had gathered enough to winter on. Now they do look cosy with their sealed up combs of clover honey. If any stock I have seen this year can give a good account of itself in 1922 that ought to. So far as I can learn, only one or two have taken any quantity of honey in this district this year, and a great deal of feeding has had to be done. The last three weeks has been ideal for feeding up, most stores being sealed over. With anything like luck the death rate ought to be lower than last winter, and our turn come for that bumper crop that all bee-keepers are looking for in 1922. TOM SLEIGHT.

P.S.—It would be an eye-opener to some of our flat country beemen to have gone with me on this trip. I crossed eight valleys, there were some hills to climb, and there was some free wheeling, too.

A Good Report from Durham.

I notice in this week's JOURNAL (September 28) Mr. T. Sleight states that the year 1921 is inferior to that of 1920 as regards the heather flow. It may be so in his district, but here, in North-East Durham, I believe it is the best year we have ever had as regards surplus.

When we took our colonies of bees to Burnhill (North-West Durham), the heather was just beginning to show promise of what it would be like in a few weeks. The brown hills were just assuming their purple hue This was the last week in July. I had four colonies, and those of three other friends brought the total number of stocks up to nine, a bee-keeper from Newcastle had two hives also (he had very few bees inside), making a total of eleven, so the district was not overstocked. My hives had each one rack of sections in position, as from previous years' experience, and from someone's statement in the JOURNAL that bees never yet filled two racks of sections at the heather, I thought that one rack was sufficient. The brood chambers of my heather hives were all filled with framed combs, covered with myriads of bees, and packed solid with brood from young queens—queens whose ages ranged from one month to ten weeks. I naturally thought (*vide* "A Modern Bee Farm") that these queens would keep the brood combs from being choked with honey. After placing all the colonies in position in a field we left them to their task and returned home. They were at the moors about three weeks before anyone visited them, a relative of mine then went up and inspected them. On his return he bade me go up "as your two end hives are choked with honey, and if room is not given they will be drowned." I was also informed that my other two colonies were in a like condition, but the other stocks, although heavy with stores, were not so far advanced. The following Tuesday I took a day off, and, with a friend, took racks of sections as directed. On our arrival we found the bees were needing room very much. In fact, I believe we were too late in giving it.

My "end" colonies had filled and sealed all their sections, and, having no more surplus room to store the golden nectar, had decided that food was of more importance than bees, so, acting upon this decision they had filled every available cell in the brood chamber. The other stocks were all in the same state of progress. After giving them extra storing space we left them and had a ramble off over the heather, which was now at its best. Over the waving purple mass we tramped with springing steps, raising with every movement a cloud of pollen; over dykes into moorland meadows white with great mushrooms, some of which we gathered, and then returned for the home going train at 7 p.m.

The weather still continued fine, although we experienced a few showery days and cold nights, but everything indicated a continuance of the flow. It must have been a heavy continuous one, for we went up for the bees a fortnight ago and the railway weights of the hives gave us a good indication of the successful season, as Mr. Sleight will agree when he reads the weights which I append.

The N.E.R. Co. weighed the hives of bees on going to the moors and they averaged 56 lbs. (my hives of bees). On their return they averaged 125 lbs. My "end" colonies weighed 142 and 140 lbs. respectively. The first weighed more, but this was all the weighing machine would register.

I harvested forty-two merchantable sections from one hive, and about thirty-six from the other. These were all well filled and perfectly sealed, and were taken from the "end" hives. The others gave from twenty-one to thirty good sections. I also lost a good deal of surplus honey through the bees building a piece of comb behind the division board, and filling it with honey. It contained over 4 lbs. Each brood chamber has the same story to tell. Every comb is choked with sealed honey; the brood being confined to two central combs, and the area devoted to it is of 5 ins. diameter. This, mind you, with young prolific Italian queens; but I attribute it, in part, to my not being able to give them the extra storing accommodation in advance of their requirements. That is how our hives returned after a six weeks' sojourn on a hill 1,340 ft. above the level of the sea.

I can imagine many shaking their heads over the dearth of young bees to replace their work-worn sisters. I have prepared for that eventuality. With my bees it was a case of "Une main lave l'autre." Four colonies of bees were engaged in honey getting. They would be too intent upon this to preserve the correct proportions of each, viz., brood and honey. But I have four colonies, or should I say nuclei, at home, building up extensive brood nests in order to supply their stronger neighbours who will share their surplus stores with them in exchange for the brood, of which they have lots. So I have no fear for the well-being of my stock, but where this is not done the stocks may die owing to the queen being unable to lay eggs in sufficient quantity, because of the glut of honey in the combs. This can be remedied, of course, but many leave things to take their course.

The honey from the heather this year, I notice, is lighter than usual; or, so it seems to me. But its consistency is the same as ever. Sections for table use when cut across the mid-rib and bi-secting the cells fails to cause the honey to flow or run out of them.

The dish in which they are placed is almost as clean (I mean from a sticky point of view) as when first used for the section. But it is its taste which appeals to me mostly. I, as a rule, like clover sections best, because I think the heather is too strongly flavoured. This year, however, I can eat it with avidity. The flavour is (to me) not so strong as of former years, and its taste is sweet and lively.

A good market exists for all our produce. I have sold a rack to one shop at 3s. 9d. per section, which I consider a fairly good price. I have sold another rack to a gentleman for the same figure. But Christmas approaches, and I have no doubt that all I have will be profitably sold. I could not keep pace with the demand for my clover sections, sold at an even higher price than what I am selling my heather sections.

But Mr. Sleight will agree that this district has yielded well, and the gentleman who wants to see stocks that fill two racks of sections had better call here and see mine—two of which could have filled three had they been on.—JOHN BOUCH, October 2, 1921.

North Hampshire Notes.

The season has been the best since 1911. In 1912 I was cleared out with "Isle-of-Wight" disease, and although I have constantly tried to keep a few bees I found the dread disease carried off the stocks year after year. Generally a little surplus was attained, but until the winter of 1919-20 I failed to winter a stock. Bonfires were much in evidence after each loss, but in 1919 I saved the old combs in the brood chamber from one hive and put a May swarm on it in 1920. Strange to say, that stock was the only one that showed any signs of disease and gave the best surplus. Four of my 1919 stocks which had shown signs of disease came through the winter safely, and I built up to fourteen stocks. Several of these showed signs of disease, and although the swarms built beautiful straight combs in the brood chamber, little was done in supers. Directly foundation in supers was put on swarms became the order of the day, and the total honey crop was about 120 lbs.

One stock had disease very badly indeed and was very weak, but there was no sign of the filthy mess observed ten years previously. Although covering *two combs only*, I left them to winter, and they came through safely. They were assisted by brood from a stronger stock and built up well. Although they swarmed, and the swarm decamped, they gave 60 lbs. of honey this year, and no signs of disease have been seen.

My most profitable 1921 stock has a history that seems to go quite contrary to all expectations. It was a small swarm, found on July 9, 1920. Having no hive available, they were put on top of a box in a shallow frame super

with worker foundation in and a rack of sections put on top. Half the sections were drawn out and about half-a-dozen saleable ones obtained. Sections were taken off on August 30, and only five combs in the small brood chamber were found to be drawn out. Bees were fed with syrup medicated with Bacterol and put to winter on the five shallow combs, which were now put in a proper hive. In March, 1920, I began gentle feeding, and on May 5 the last frame of foundation was put in. On May 13 the last comb was full of brood and eggs, and a brood chamber containing drawn-out comb, on which bees having disease in 1920 had died during the winter, was put under the small brood chamber. On May 26 a shallow frame super of drawn-out comb was put on top. On June 9 a second super was put under the first; on June 20 a third super, of frames with foundation only, was put under the second. July 5, two supers containing 60 lbs. honey were removed and extracted, and one replaced on top of the third. July 9, fifth super (foundation only) put under third and fourth. July 25, two supers taken off and extracted 61 lbs. Honey flow practically ceased, and on August 11 24 lbs. were taken from the last super. On August 14 the original shallow frame brood chamber was taken off and yielded 24 lbs.—total, 169 lbs.

This brood chamber was given the bees to "lick" out, and has not been removed. In September the bees commenced work again, as there is a beautiful crop of mustard and charlock about 400 yards from hive, and the bees on October 3 were working strongly and showed no signs of disease

On June 2 last I found an exceedingly large vagrant swarm, and put them in my only "Cottager" hive on drawn-out comb on which bees had died during previous winter A rack of sections was put on top—about half were drawn out. Bees were working in sections the next day. Second rack was put under first on June 12, third rack under on June 21, fourth rack put on July 4, fifth on July 11, sixth on July 15. Sections were taken off as completed. Total produce was 100 grade 1 sections and over 20 12oz. sections. This seems to me a remarkable record, as my best *stock* previously has given only 100 sections, and the bees did not swarm. Of course, this swarm has not swarmed.

A strong swarm, hived on similar old comb on May 25, gave 80 grade 1 sections.

Of course, some hives have done very indifferently, and three have shown disease badly. Strange to say, all three have now built up strongly and are breeding rapidly, and, with the aforesaid mustard field yielding nectar and pollen I believe, are going to winter comfortably.

I should say that all hives and brood chambers were scrubbed out in spring, floor boards cleaned, and a strong solution of permanganate of potash allowed to dry gradually on the same before use. Bacterol is used in spring feeding. The bees are fed down with syrup in the autumn and not interfered with until a warm day in mid-March.

From the above experience it would appear that entire destruction is not altogether advisable, and also that the law of immunity will come to one's aid.

My bees are hybrid Italians, great stingers, and considerably larger than the old black bees I started with in 1909. I have watched them struggling to get through the queen excluder, and it appears they have great difficulty in getting through. Is it possible that the excluder is too small for the modern bee? I never use excluder for section production, and only once have I had a queen in a super.

A summary of my apiary is as follows:—1921: Started with six stocks—two very weak; obtained three vagrant swarms, made an artificial swarm which swarmed, and increased to a dozen stocks in all. Total honey yield, 678 lbs.—W. B. C.

Michaelmas Daisies and the Bees.

While staying for a week-end at Eastwell Park, Kent, I was able to make a close observation as to plants which offer the greatest attraction to bees during the late days of autumn. This may be of some value to those bee-keepers who are planting, so am sending you the notes I made.

In the first order of merit came the asters, and here they bloom in perfection, the borders having enormous clumps, all in full blossom. Now you will say, we know the bees love the asters, so why trouble? The reason is that some varieties seem more attractive than others, and there they have nearly 100 varieties, not in the usual miserable clumps we see, but in great masses, enough to make glad the heart of any bee-man. Here was my opportunity, and I took it. Every variety had hive bees round it in greater or smaller numbers; some attracted humble bees in numbers, others hover flies and solitary bees, again some seemed to offer temptation to blue and green bottle and lesser flies of all kinds; it was remarkable, too, to see the number of small brown butterflies hovering round. One fact stood out prominently, only the humble bees gathered any pollen. In many hours' watching I saw no instance of pollen gathering by hive bees. (I may say since my return I have kept watch, and can see no case of pollen gathering.) Colour is stated to be the advertisement of the flower, and naturally one would think the brighter colours would be the most attractive, especially in the supposed favourite colour of the bees (blue), but as a fact this is not so, for not only did I find the lighter shades most crowded, but it was the smaller variety that took first place. One variety compelled attention by the great number of hive bees working it. The hum was like an organ note in its intensity, and during the four days I observed it every clump of this variety was covered with hive bees. The flower is about the size of a threepenny bit, very pale lavender, borne in immense trusses. On inquiring the name I was told it had none, being a seedling raised in the garden. So for want of a better definition

we called it Eastwell Seedling. The next in order of merit (from the bees' point of view) is Hon. Edith Gibbs. This attracted a number of solitary bees as well. Climax took third place, and is a striking variety. Fourthly, Collarette Rose, a beautiful aster, though it did not appear such a free flowering kind as the others. These four certainly stood out as bee plants, and I shall plant them in preference to others on this account.

Another plant which seemed to afford pleasure to the bees is the old-fashioned garden fuschia. Here it was by the help of the humble bee that our little workers benefited. The humble bee bites a hole in the long tube, and takes her fill. The plant appears to secrete a great quantity of nectar, as several bees visited each blossom, and apparently found enough; it also appears to secrete for several days, as I found the humble bees piercing fresh openings on the second and third day, and our friends closely following them. At Eastwell these fuschias grow in great clumps, so no doubt the bees do well.

The humble bees also pierce the antirrhinum, but I did not see any other insect trying to obtain nectar from them. This made me wonder if this plant is self-fertile, and I shall experiment next year to try and determine this point.

I would say in conclusion that anyone wishing to obtain roots of the asters named may do so from Mr. J. Weston, who, I believe, is opening a business as a nurseryman and florist.—G. J. FLASHMAN.

Sussex Notes.

Since I last wrote to the BRITISH BEE JOURNAL, although we have had no rain, the exceptionally heavy dews at night have to some extent altered the situation in favour of bees continuing to work. The ivy blossoms, and the flowers of the Michaelmas Daisy have no doubt been able to secrete more pollen and nectar. That such has been the case is evident from the great number of flies, wasps and bees, especially working the ivy. The Michaelmas Daisy apparently only attracts flies and bees, for I have never yet seen a wasp on one of them.

Wasps have been very troublesome this year. By contracting the entrance to the hive bees are able to some extent to hold their own, but where stocks are weak I believe wasps have been able to master the bees and rob the contents of the hive or skep.

As regards keeping bees in skeps some people would condemn the practice as obsolete. But with modern large-sized skeps with a hole in the top so as to carry a good-sized cap one can obtain honey in the comb such as is impossible to be made in the modern frame hive. The comb honey in the skep I took this year was very beautiful, and reminded me of the comb honey one gets in the Himalayas.

I was rather astonished the other day on reading the obituary notice of the late Mr. Sladen in the "B.B.J." to see that his travels had extended as far as India, and that he did not find the honey-bee of the Himalayas suitable for domestication in this country. This seems all the more extraordinary when one considers the conditions obtaining in the Himalaya mountains, the hills of Southern India, and in Kashmir. There the flora is similar to that obtaining in Europe, and good honey can be obtained there. There is absolutely no reason why English or Italian bees should not be acclimatised in those parts, and for all I know to the contrary such may have taken place in late years, for numbers of English families have permanently settled in the hills of India.

It would be interesting if the Editors of the "B.B.J." could obtain a correspondent from India on the subject of apiculture. Bees of various kinds are numerous in that country. The wild bees of the plains and forests of India are the most ferocious insects one can imagine, they do not hesitate to attack one on the slightest provocation, and everybody gives them a wide berth. Nests of the wild bees as big as ordinary cart wheels hang on the marble rocks on the banks of the Nerbudda River in Central India, and similar nests are found in all the forests of India. Evidently Mr. Sladen would have nothing to do with them.

Yet another lady has just come to Beckley, who is a keen apiculturist, and has settled down with several hives. The practice of keeping bees is gradually extending here. This is as it should be, both in the interests of the cultivation of orchards and the welfare of the general public. It may lead also to the importation of foreign honey being less common than it is nowadays. Moreover, we may yet see a return to skeps being a common sight in cottage gardens.

When the present hot weather comes to a conclusion, an event anxiously looked for, the labour of the bees will come to an end, but they are still taking in pollen, and no doubt a certain amount of nectar. The end will soon come, now already the leaf is falling largely, and the glorious autumn tints spreading over the country, the gloomy winter once passed we shall be looking forward to another year with, let us hope, not the extreme climatic conditions that have prevailed in 1921.

In wintering down my bees I shall put a couple of cakes of medicated candy in each hive, and a cake over the hole in the top of the skeps. I rather advocate cottagers keeping bees in skeps with caps. They might not gather so much honey, but they would be put to less expense than in starting modern wooden hives. Neither would they have to kill their bees in order to take the honey. What would Mr. Kettle say to all this? One would like him to air his views on such a question.—M. TWEEDIE.

Beckley, October 14, 1921.

Jottings from Ashdown Forest.

The most extraordinary season, 1921, being near closed, a few jottings will interest fellow readers, as fellow readers' notes are welcome to me, bringing about a greater spirit of fraternity and feeling in followers of the craft.

First, at the moment I cannot hunt up the item, but fellow readers will remember the article, or report, giving us the information re that veteran apiarist, Mr. T. W. Cowan, being present at a very important gathering I believe the first time he had spent the day away from his wife on the anniversary o' their wedding, and that was drawn to the notice of the gathering; it was the golden wedding anniversary, though nobody seems to have referred to it in the numerous and interesting contributions; doubtless all are with me in wishing him and Mrs. Cowan many more happy returns of the day.

Other contributors seem in general to report a prosperous season. One wonders is it only the successful ones that have written; or have the pages of the journal been so full up with successes that there has been no room for those disappointed, discontented, etc? Though doubtless apparently one of the best times for bees for many years, I will put it, as many owners who rely on me to look after their bees and get them some honey seem to see it. With all the fine weather their bees must have the hives full of honey they think, and I do not come along to take it for them. Some few have been successful in getting a fair amount of most excellent honey, others little or none. Why is it? Sections have been very few, likewise straw skep caps, and everybody wants sections. Were it not for my persistence in the use of shallow combs without excluders, most would have swarmed, and swarmed, and got no honey at all. With shallow combs, and by carting my extractor and ripener round on my bicycle, most had a fair amount of excellent run honey, but very few sections. They inquire, how is it? I have to explain the severe drought not only cooked the various blossoms, one after the other, making the period of each very short, but the greatest trouble has been the enormous quantity of webs from spiders and vermin in general; everything, even the telephone wires being a mass of webs. What web-making insects wanted up there I don't know, but there they were and are even now. Clover was webbed, and bees got tired of trying. Several times, notably end June and early August, supers were full up with bees, after a brief rest and some showers. Honey apparently was expected by the bees; they went away in shoals never to return. At the starting of the heather bloom bees appeared lazy for some days; brood having emerged, there were crowds of bees in the back corners of hives having three racks of shallow combs on. Sunshine after a few showers, and what a sight it was to see them off in the heather direction? Later in the day, having asked my busy son to go and have a look at the bees, he came back to me, thinking I had better have a look, as they were going away in immense numbers, but very few coming back. It was so, and the few returning all came back at a terrific speed, apparently scared in the extreme. Later, though I thought they needed no disturbing, at my son's request to see how much honey they had got, a peep at evening proved there was trouble. What had three days before been crowded with bees was now deserted, and we could see a long way down between the combs. A further examination proved those seen hurrying home had brought very little Makes one wonder whether it will always be the same, and bees unprofitable to go on with. I touched on the cobweb pest earlier in the year, and asked if others had noted the trouble, but no one seems to have commented on it. Have other districts the same trouble?

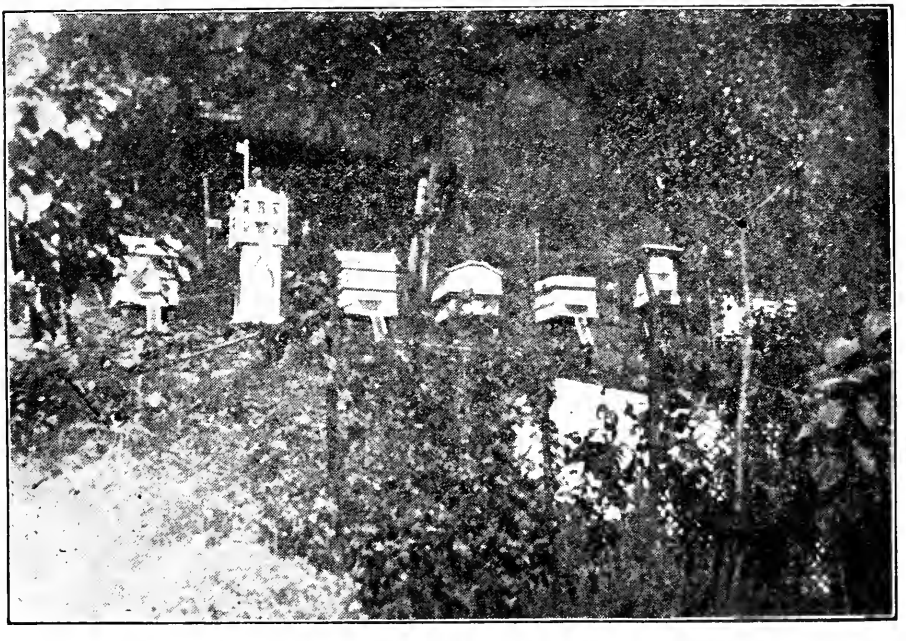
Having sold some stocks, I am preparing about 40 others for winter, which are needing a lot of feeding, a rather serious item. I bought from a "B.B.J." advertiser three tins of Australian and West Indian honey, to which I added water and a little salt, and gave it a fair boiling (as maybe there are foul brood germs in it). The bees like it, in fact too well. Care has to be taken or disastrous robbing would take place. I have yet to prove whether I had better have bought sugar. Both the Australian and West Indian (Jamaica) honies are of splendid colour and consistency, with no sign of commencing granulation, and doubtless being put up in bottles with attractive labels, making a splendid show, probably will granulate and look quite as good as English honey, and should be sold at quite a reasonable price to enable even the poorest to buy.

(*To be continued.*)

Bees in Jersey.

Spending a summer holiday in a very fertile and beautiful spot in the Channel Islands, my thoughts, as usual, turned on the bee-keeping probabilities and possibilities of the island. As we were returning one evening from a long drive to Plemont on the N.W. corner of Jersey, my attention was called to a large apiary perched on a hillside of St. Peter's Valley. I made a mental note of the position, with the intention of making a special expedition to the apiary another time. This I accomplished a few days later, and found myself in one of the most fantastic apiaries imaginable. There are about forty hives and skeps of all sorts of shapes and sizes. One stock of bees resides in a modern red-brick villa, with windows, balcony, front door, with brass knocker complete, and the house agent's board at the side notifying that the house is let. Another stock lives in a miniature Swiss châlet. As the hives stand on a series of terraces on the side of a precipice, the entrances are, in many cases, provided with a ladder. I watched for some time, honing to see a bee use a ladder in the orthodox fashion, but with no success. I was unfortunate in not finding the bee-keeper at home, but his good

lady gave me a few minutes' talk about the bees, and allowed me a close view of the hives, as near as my climbing capabilities would allow. Since then I have had the pleasure of a chat with the secretary of the local Bee Association, which has between 50 and 60 members, which seems a very fair number considering the size of the island. Although Jersey is so fertile, there is comparatively little bee forage. The fruit blossom is most abundant all over the island, and there is some heather, otherwise there is very little of any use to the bees. If potato and tomato blossom were nectar-



PART OF MR. MATTHEWS' APIARY, JERSEY, C.I.

yielding flowers, then it would indeed be an ideal place for the bee-keeper.

"Isle of Wight" disease is unknown there, and as a precautionary measure the importation of live bees is forbidden.—E. Fox.

Bee Notes from Glamorganshire.

I must say this has been a wonderful year for the bees around this district in Glamorgan. The honey stored was of good quality. We have plenty of forage for the bees to work on, as there are trees of all kinds, foreign and English, and plenty of pasture and clover fields next door to the hives, so the bees have not got far to go to gather the nectar. I came through the winter of last season with two stocks, having lost one stock by dysentery in the autumn of last year, just after I had begun autumn feeding with sugar syrup. I put this down to the change of food in feeding with syrup, as one of the other stocks had also begun to show signs of it so I mixed half of honey or more with the syrup, when they very soon began to improve and dysentery disappear. We did not get any surplus honey last year, and therefore had to feed bees during part of last summer and right through the winter. A great number of stocks around here perished last winter from the want of feeding. As the bee-owners did not think kindly enough of their little harvesters, when the ills of nature were all the while against them, to give them a little food. All some owners seem to want to do is to take all and repay nothing. I had about 3 cwt. of honey from three stocks in W.B.C. hives this year. One of these was very weak in the spring and the other was a swarm from the strongest of the two that came through the winter successfully and gave me 50 lbs. of good dark honey and the swarm by the end of May. Have also had several good swarms since, all of which were successfully hived and have done well. Each of the stocks has got enough stores and plenty of young bees to carry them safely through the winter, this time I hope without much feeding, as they have packed the brood chambers up well with stores, and are still bringing in plenty of pollen and nectar on these hot October days. I shall still watch them to see they want for nothing as they have payed me nearly sixteenfold for what I gave them last winter. I was very pleased with the success I gained at the Agricultural Hall. I should like to have seen more competition in some of the classes, but, as stated in last week's Bee Journal, no doubt

the railway rates have a lot to do with it, as they are very heavy just now. The light colour, No. 43, Class 7, that got the first award, was taken from the stock that was a swarm itself the end of May, and, as there was a clover field just over the hedge, I put on plenty of supers just as the clover was out in bloom, and had a good lot of almost pure clover honey. The dark that was awarded third prize in Class 8, No. 62, was gathered from the spring flowers during the month of May.

We are now beginning to look forward for 1922, and must hope that we get as good a honey harvest then as we have this year around this part of Wales.

WM. C. HOUSE.

British *v.* Foreign Hives.

May I be permitted to comment on your correspondent's remarks on the B.B.K.A. annual show. He says: "It is a pity that some of the manufacturers do not seem to realise that freak hives and American ideas will not take on in this country, but that British ideas, gained by years of experience, still reign supreme, and will continue to do so."

Now, sir, I maintain that the above remarks betoken a reactionary spirit not in the interests of bee-keeping. By all means let him condemn such hives if they prove to be bad in practice, but it is surely entirely wrong to condemn them because they are "freak" or "American." We want the best hives that can be produced, and what is the best hive to-day may not be so to-morrow. Experiment and interchange of ideas with other nations should by no means be discouraged, as your correspondent apparently thinks they should be. I hope I have misread his intentions, but cannot see how otherwise his remarks can be read.

J. H. M. STEVENSON (Capt.).

Annual Sweet Clover.

It may interest readers of the BRITISH BEE JOURNAL to know that I have grown a small patch of Melilotus Alba—about 1-6th acre—this year on a plot of waste ground in the stable yard. I obtained the seed, after many fruitless inquiries elsewhere, from the Country Gentleman's Association, and paid 5s. 9d. for 2 lbs. I cannot understand, therefore, how your British Columbian correspondent in the issue of Sept. 22 understands the price of seed will be as "low" as 15s. to 25s. per lb.!

My little crop was sown broadcast on Easter Monday, and very roughly harrowed in. In spite of the drought, which has been very severe here, it grew to a height of 5 ft., but did not flower sufficiently profusely to make much difference to my bees, though such spikes of blossom as were produced were incessantly visited by them. Having no grass for the domestic cow, I had to cut my Melilotus and chaff it up for her. She has now consumed the lot, but the clover is coming up again thickly all over, and with rain will soon be quite tall again. It remains to be seen whether it is correctly styled an annual. From A.1 Roots A B C and X Y Z of Bee Culture, p. 746, it appears that in Iowa, U.S.A., it is expected to yield a crop the second year after sowing, at all events. [This is *not* the annual sweet clover, or, as it is now called, Hubam.—EDS.]

Bees here are far too busy, I fear, for the time of year, and, with the help of a few ivy blossoms, are trying to make out a honey flow is on. Winter stores are being depleted, I see, at a very disconcerting rate.

H. W. KETTLEWELL (Lt.-Col.).

Oct. 10, 1921.

Twickenham and Thames Valley Bee-Keepers' Association.

(IN AFFILIATION WITH THE BRITISH BEE KEEPERS' ASSOCIATION).

Lectures on bee-keeping will be delivered by W. Herrod Hempsall, F.E.S. (Expert and Lecturer to the British Bee-Keepers' Association), on

*Thursday, October 27, 1921, at 7.30 p.m., at the Library Lecture Hall, Twickenham (near L. & S.W. Railway Station and trams), "Ancient and Modern Bee-keeping."

*Wednesday, November 23, 1921, at 7.30 p.m., at the Polytechnic, Hounslow (near L. & S.W. and District Railway Stations and trams), "A Trip to Bee-Land."

*Friday, December 16, 1921, at 7.30 p.m., at the Library Lecture Hall, Twickenham (near L. & S.W. Railway Station and trams), "Waxcraft."

Thursday, January 26, 1922, at 7.30 p.m., at St. Peter's Hall, Staines (near L. & S.W. Railway Station), "Swarms and Increase."

Thursday, March 23, 1922, at 7.30 p.m., at the Congregational Church School Room, Hampton Hill (trams pass the door), "The Hive," with practical demonstrations on Frame Building, etc.

*Thursday, April 27, 1922, at 7.30 p.m., at the Library Lecture Hall, Twickenham (near L. & S.W. Railway Station and trams), "Honey from the Cell to the Consumer."

*With lantern slides.

All persons interested in bees and bee-keeping are invited to attend.

North Devon Bee-Keepers' Association.

Members of and those also interested in the North Devon Bee-keepers' Association, to the number of about forty, had another very enjoyable meeting on Saturday afternoon, October 8. They were received at The Apiary, Braunton, by Mr. and Mrs. Tattersall Williams, and after inspecting the hives in the charming garden belonging to the house the party went on to the green at the rear of the Manse. Here an excellent demonstration tent, recently purchased by the Association, had been erected, and the party

assembling round this, a most interesting exhibition of the methods employed in uniting stocks of bees was given by Mr. Tattersall Williams, assisted by the Rev. J. Morley Davies. Questions on this, as well as on other departments of bee culture, were asked and readily answered. All then proceeded to the Congregational Schoolroom, where an excellent tea had been provided by Mrs. Tattersall Williams, Mrs. S. Tucker, Mrs. J. Pickard, assisted by Miss Mildred Williams. Ladies presiding at the tables included Mrs. Williams, and the Misses Clemow and Cusins, in addition to the ladies mentioned above. After tea some splendid microscopic slides of insect life, mounted without pressure, were shown and explained by Mr. R. Beck. These included several illustrating the anatomy of the bee, and acarine disease to which the little creature is liable.

A vote of thanks to the ladies who had made and carried out the arrangements for the tea was moved by Mr. Beck. The Rev. J. Morley Davies and Mr. Tattersall Williams briefly replied, the latter thanking Mr. Davies and his committee for so kindly putting the schoolrooms at the disposal of the association.—(*Communicated.*)

Ongar and District Bee-Keepers' Association.

In connection with the show of the Ongar and District Agricultural Association, we held our first honey show on October 13, 1921. There were fourteen entries for run honey, nine for sections and five for shallow combs. These exhibits, when set out, made a very nice exhibition, and were admired by many visitors to the tent set aside for dairy produce. Mr. G. R. Alder, secretary to the Essex Association, Mr. Winn, Hornchurch, and Mr. Alder, junr., inspector, acted as judges, and made the following awards:—

Six jars run honey.—1st, Mr. H. E. Merchant; 2nd, Mr. G. A. Taylor; 3rd, Mrs. Calver.

One shallow comb.—1st, 2nd, 3rd, Mr. G. A. Taylor.

Three sections.—1st, Miss Hall; 2nd, Mrs Turrel; 3rd, Mr. G. A. Taylor.

Special prize given by Mr. R. Lee, Uxbridge, value 14s., for most points in the above classes.—Mr. G. A. Taylor.

Special prize given by Mr. R. Lee, Uxbridge, value 7s., for best section in show.—Miss Hall.

The entries, especially in the class for 6 1 lb. jars of run honey, were of excellent quality, and the judges had no light task. The classes were open to the county of Essex. —(*Communicated*).

Are the Black Bees the Black Sheep of the Flock?

I say no, although everyone seems to think it is the "devil" in our midst. Well, give him his due.

For fifteen years I have had two stocks about five miles from the city, and I have never had less than 60 or 70 lbs. of surplus from each hive, but it has often been 90 lbs. or over.

I make no comment upon the manner in which they have been kept, but everyone else in the locality lost their stocks, while mine remained healthy.

Every year I have brought home an artificial swarm from each hive, which have proved equally successful.

Some years since I lost all I had except the two stocks referred to, and among them were Dutch, Italians (which were guaranteed immune), and Carniolans, and I am convinced there are good, bad, and indifferent in all of them. I certainly have gone in for more Italians since that time, but even so, I lost two stocks from foul brood four years since, so that it appears to me it is a question of what happens, and, given a good strain of blacks, you cannot beat them, if properly kept.

W. J. GIBBS.

York.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Is it Playing the Game?

[10544] I am grateful to your contributors for their interesting replies to my question. Our friend of Huntingdon, rather to my surprise, seemed to suggest that combs containing honey are sometimes exposed in hives in order to attract swarms. I should expect that the honey would attract piratical robbers rather than peaceful citizens, and that that practice, at all events, was not sound bee-keeping. Another contributor talked of playing the "dirty" game, using dirty in a double sense. First, as the equivalent of dishonest, and, secondly, with the suggestion that old combs are necessarily tainted and ought to be burnt. I would reply that old combs need not be dirty, and that inasmuch as I did destroy such combs as seemed open to suspicion, I can fairly claim that my combs were clean. As to the honesty or dishonesty of the practice, I am comforted by the support of that kindly socialist of the Violet Farm, who approves whole-heartedly of my proceeding. I await now with little trepidation the editorial comment, which you, sir, kindly promised to give when my first letter appeared. [We will try and give our comments next week.—EDS.]

May I trespass on your space to ask another question? I have found considerable difficulty in persuading my bees to take down the honey from the extracted combs which I return to them. They persist in storing the

loose honey in the supers, although I have given them weeks to dispose of it elsewhere. After long delays I removed the supers and found more than a pound in one comb, some of it sealed, and an appreciable but smaller quantity in seven or eight combs out of about forty. The remaining combs were beautifully cleaned and repaired. Then I suppose I did the wrong thing by putting these few honeyed combs in an empty hive, reducing the entrance to a single bee-space, and setting it up fifty yards away from the hives. When I returned a few days later the combs were indeed clean, but they had been robbed clean by wasps, which were still thronging about the hive, and entering it freely by the cone ventilator, as well as by the proper entrance I removed the combs and substituted for them a wasp trap, which has accounted for a satisfactory number of wasps but has not caught a single bee. Evidently I had reckoned without my host, and I ought to have taken the trouble to feed the honey back to my bees in a more legitimate manner, but I should like to know whether others have the same trouble, or if there is some sure way of inducing the bees to take the honey down instead of leaving it on top.—C. C. FELIN.

[There is very often a difficulty in getting bees to clear out the combs satisfactorily, and various methods have been tried, generally without success. We have tried several, and for cleaning up the combs inside the hive have found the most satisfactory is to have an empty shallow frame super between the combs and the brood nest, either with the quilt on the latter, with the feed-hole open, or having the super clearer in position and opening the slide to allow the bees to get to the combs. The space between the shallow combs and the brood combs causes the bees to carry the honey down instead of storing it in a few cells in the shallow combs.—EDS.]

Successful Wintering.

[10545] I wonder if the following is of any use to anyone who is late in feeding up.

At the very end of October last I received a lot of bees driven from a chimney stack, and had only empty, worked-out combs I could give them.

Not wishing to add to their labours during the winter months in liquefying candy, I hit on the plan of using a 2-lb. golden syrup tin, the lid of which I pierced with one 1-16-in. hole, and placed this, full of boiled foreign honey, over feed-holes of hive, packing it well round with newspapers. This was emptied by the bees about once every fourteen days, until the end of January, when every week or so had to be adopted.

At the end of February I pierced two more holes, and reduced the density of food gradually until ordinary spring feed could be safely resorted to. That stock turned out one of the best in the apiary, and gave nearly the first swarm in the season just closed.

Is this instance of liquid winter feeding unique, or have other bee-keepers tried it? If so, with what success?

Cambridge. S. HARLOWES.
Oct. 10, 1921

Feeding Sugar to Obtain Surplus.

[10546] I am much interested at reading this article. In the autumn I let the bees fill their combs with honey and cap it. During this hot weather, I slow feed autumn syrup, just enough to allow liquid for hatching bees. So they winter down with abundance of honey. In the early spring this I uncap, a little at intervals, with a warm knife, without lifting a comb, and it lasts till May. Then examine the nest, and put a super on. If a good season one can tier up to six supers if large hives, with the floor vent open. Result, the honey is quite pure. I found this last season, my bottled honey I kept has turned a pale white (stiff), and delicious to eat. Only the natural sugar in the candied honey, which is hardly noticeable.

I see in shops, candied foreign honey, a brown pink colour.—C. TREDCROFT.

Late Pollen Gathering.

[9,931].—May I, through the columns of the JOURNAL get answers to some problems of bee-keeping, and which answers may be of interest to other readers.

I am quite a novice in bee-keeping, and what I do know about it is from reading the JOURNAL for about nine months, and a few back numbers given me by a friend, and also a small book on the subject. There is no one here I can refer to. I commenced in May with a three-comb nucleus of hybrids, and two swarms of brown bees at the latter end of June. The nucleus is now on ten combs, and appear to be well prepared for the winter. The swarms have done well. The smallest, which only weighed about 2½ lbs., is cram full of bees, and the brood box very heavy, and the bees are carrying pollen in these days as if it was May or June, varying in colour from pale yellow to chocolate. Now what does this signify? Is it that there is much breeding going on, or is the pollen stored for winter use?

[Some of it is probably being used for feeding larvæ, and the other stored to be used for the same purpose in the early months of next year.—EDS.]

The other swarm seems more lethargic, only a bee now and then taking pollen in. Does this mean that no breeding is taking place? It has also suffered to some extent from robbers. Would this account for the absence of vim?

[The colony is evidently not so strong as the other, and is either rearing no brood or only very little. The robbing would tend to weaken it. The bees may not be so energetic a strain as the others.—EDS.]

All this district was cleared out of bees some two years ago by the "Isle of Wight" disease. There must have been scores of hives within a radius of three or four miles, but

early this year I did not know of a single stock, and yet in the summer there were quite a number of stray swarms hived, and a good number have been imported here. Bees have been kept here in skeps and boxes, very few frame hives. The season has been a remarkably good one for bees in North Wales, only the drought in July made the white clover a bit of a failure; but the copious rains of August put things right for alsike, clover, and heather.

We have practically no wasps in these parts this year. I killed scores of queen-wasps in the spring, and this by a rather novel method.

May I endorse the desire of a correspondent (September 1, page 410) that the Rev. E. F. Hemming should write, and write for novices, "what can be learned from observations of the alighting board." For instance, do bees clean one another on the board, and, if so, is it the young that have not yet taken flight that they clean, etc., etc.? Can you give any information about the Wet-pack? I believe it is said to be good against robbing.—STREVLYN, September 23, 1921.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

"EBOR" (Dorset).—*Liquefying granulated honey.*—The vessel containing the honey should be put into another one containing water, and the whole heated until the honey is clear. Care should be taken that the water does not boil. The temperature should not be more than 150 to 160 deg. Fahr. If the water boils the honey will suffer in colour, flavour, and aroma. When we have tins of honey from 28 lbs. upwards to liquefy we requisition the household "copper."

H. L. (Edinburgh).—*Flowers for bees.*—In addition to the Wallflowers, Crocus, Clover, Michaelmas Daisy, Raspberry, Currant and Gooseberry you already have, there are, among others, White Arabis (single), Common Bugle, Borage, Cornflower, Limmanthes, Douglasii, Sweet Clover, both annual and biennial, Mignonette, Winter Aconite, Sainfoin. All of these may not flourish in your locality, and on this point your local seedsman may be able to advise you.

T. W. P. (Hessle).—*Bees turned out of hive.*—So far as we can tell, removing the supers caused robbing. The queen may be all right, but it is impossible to say without examination.

"SKEAMS" (Grimsby).—*Bees in box.*—You cannot do better than cover the box with a larger one for the winter. The bees may be transferred to a movable comb hive in the spring by placing the box over frames fitted with foundation and allowing the bees to work down.

G. P. (Chichester).—Thanks for your letter, but you have not complied with our conditions and sent name and address.

Suspected Disease.

H. F. (Sheffield), "PEEBLES INQUIRER" (Peebles), "LEOPOLD" (Stafford).—The bees sent had Acarine disease.

Bee Shows to Come.

October 20 and 21.—Ayrshire Agricultural Association. Dairy Show, Agricultural Halls, Kilmarnock. 13 Classes. Liberal prize money.—Prize schedules from John Howie, Secretary, 58, Alloway Street, Ayr. **Entries close October 7.**

October 26 and 27.—Peterborough, Oundle and District Honey Show, in connection with Oundle Horticultural Show, held in Victoria Hall, Oundle. Gift Class: 1-lb. bottle of honey; no entry fee. Entries to be sold for Peterborough War Memorial Hospital Fund. 1st prize, value 50s.; 2nd, 10s. 6d.—Schedules from Mr. Sarjeant, Organising Secretary, Bank Chambers, Cathedral Gateway, Peterborough. **Entries close Oct. 21.**

October 29.—Herts County Bee-keepers' Association, Barnet and District Branch. Honey and Appliance Show, held in Wesleyan Lecture Hall, High Street, Barnet. Seven classes for members Open classes: Three bottles dark or medium and three sections. Entrance fee 1s. Prizes, £1, 15s., 10s.—Schedules from Hon. Sec., Norris S. Toms, 60, Fitzjohn Avenue, Barnet.

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 7s. per ½in., or 12s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

PRIVATE ADVERTISEMENTS.

WANTED, Exhibition Stand to hold 75 to 100 lbs.; pyramid shape preferred.—C. E. GOULD, 38, Fountain Street, Guernsey. u.43

3 CWT. finest Hampshire Honey, £7 10s. cwt., carriage paid; tins free.—GOODLAND, Chilbolton, Stockbridge, Hants. u.42

FINEST light-coloured Cambridgeshire Honey for Sale in 28-lb. tins, £7 per cwt.; tins free; carriage paid; sample 6d.—W. BARNES, Exning, Newmarket. u.45

FINE CANDY, 11d. per lb., carriage extra.—TROWSE, 51, Eade Road, Norwich. u.46

HONEY, finest Hampshire, 28-lb. tins, £2; carriage paid on two tins and upwards; small sample 9d.—OWEN BROWNING, Kingsomborne, Hants. u.48

SPLENDID light Cambridgeshire Honey, 14-lb. tins, 1s. 6d. lb.; tins returnable.—SMYTH, Coldharbour, Ashwell, Herts. u.49

FOR SALE, three very fine Buff Orpington Stock Drakes (Cook's direct), two 5 months, one 4 months old, 12s. 6d. and 10s. 6d. each, carriage paid; worth double.—CROWE, Merriott, Crewkerne. u.50

FOR SALE, four strong Stocks Bees, four spare Hives, quantity of Shallow Frames, and Section Racks, Extractor, Ripener, Wax Extractor —BAILEY, Verulam Farm, Bedmond, King's Langley, Herts. u.52

FOUNDATION MILL, scarcely been used, packed f.o.r., £2; bargain.—WHYTE, Orme Lodge, Dumbartonshire. u.51

Fertile Italian Queens. 8/6. Delivery by return. PEARSON & GALE, Marlborough.

FOR SALE, Whitworth Taps, 3-16 in., ¼ in., 5-16 in., new full sets and 12 others, 21 in all, 6s.; also 32 new Twist Drills, straight shanks, 1-16 in. to 5-16 in., 8s.; also ⅜ in. Stocks and Die, 1s. 6d.; postage extra.—Box No. 42, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. u.55

FOR SALE, 10-frame Stocks, Italian and Dutch Hybrids; also few pure Italian; plenty natural stores; guaranteed healthy; £4 10s., carriage paid.—HARVEY, High Street Post Office, Andover. u.57

TWO Italian 1921 Queens for Sale, 7s. 6d. each.—ST. MICHAEL'S CONVENT, Nether Street, North Finchley, London, N.12. u.59

RUN HONEY in bulk wanted.—Send price required to F. E. ASHLEY, Lincoln House, Teddington. u.60

SURPLUS STOCK.—For Sale, four Stocks of Bees on 8 frames, plenty of honey and bees, £3 3s. each; one Nucleus on 4 frames, plenty of honey and bees, £2; also two Queens, 6s. 6d. each, in queen cage; the whole guaranteed perfectly healthy; travelling boxes 7s. 6d. each, which will be returned if sent back by passenger train within a week after delivery.—HAY, Forest Lodge, Woodlands, Consett, Durham. u.56

BEES AND APPLIANCES must be disposed of immediately.—View, 21, Monahan Avenue, Purley. r.u.31

WANTED, a good Airedale Terrier Puppy, also St. Bernard ditto.—Price and particulars to MAURICE HERROD-HEMPSALL, Old Bedford Road, Luton, Beds. u.1

FOR SALE, quantity of Lincolnshire Honey, price £8 per cwt., carriage paid.—ROPER, Thorpe-on-the-Hill, Lincoln. u.4

3½ CWT. Light Leicestershire Honey, £8 cwt., carriage paid, 28-lb. tins; sample 6.—ERNEST HULL, North Street, Barrow-on-Soar. u.47

1921 PEDIGREE White Wyandotte Cockerels, strong, vigorous birds, from 15s. 6d.—THE MISSES COATES, Broadheath, Presteigne. r.t.124

BUSINESS ADVERTISEMENTS.
1½d. per word.

HUBER'S LETTERS.—Translations of a very interesting selection of these are now being published for the first time in the "American Bee Journal." Subscription 10s. per year.—Agent, BURTT, Manufacturer, Gloucester. u.44

CELEBRATED CANDY for autumn feeding, 7 lbs., 8s. 6d.—BOWEN, Bee Specialist, Cheltenham. u.54

A WISE INVESTMENT.—The finest winter packing is Bowen's Candy. u.55

WILLESDEN Canvas Waterproof Hive Roof Covers, 5s.; Hive Body Covers, 7s. 6d.; carriage paid. Wanted, Books on Bee-keeping.—SAMMAN, Kirriemuir Apiary, Stillorgan, Dublin. r.u.37

SCREW-TOP HONEY BOTTLES, best quality white flint glass, 1 lb., 4s. dozen, 42s. gross; ½ lb., 3s. dozen, 32s. gross. 1-lb. bottles exhausted, another consignment in two weeks. Order early to secure.—COBB, 33, Bevan Road, Plumstead. u.58

REPLACE your failing queens now with our young, vigorous Italians, 8s. 6d. each; every Queen guaranteed; subject unsold.—PEARSON & GALE, Marlborough. u.35

THE VCARINE 1921 ECLIPSE PAD.—It knocks out moths and mites. Made up to order and posted by return, 5s. each.—S. H. SMITH, 30, Maid's Causeway, Cambridge. u.62

HONEY.—Finest Australian, two 60-lb. tins, 58s.; one 60-lb. tin, 30s.; finest West Indian "Melta" Honey, two tins, about 60 lbs., 73s.; one tin, 56 lbs., 40s.; four tins, each 7 lbs., 24s.; carriage paid 100 miles. Immediate delivery.—LONDON TRADING AGENCY, 32, St. Mary Axe, E.C.3. t.119

STRICTLY BUSINESS. — Cambridge Crystal White Bee-Candy, 4-lb. parcels, 5s.; Flavine—S Bee Candy, 6-lb. parcels, 10s.; Flavine—S Bee Powders, one dozen, 1s.; "Let the Bees Tell You," 2s. 6d.; all post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. u.61

BEES.—PRYOR, Breachwood Green, Welwyn. r.u.5

FEW surplus Appliances for Sale; no hives. List on application.—PEARSON & GALE, Marlborough. r.u.36

NOW IS THE TIME TO RE-QUEEN.—Italian Queens, by return, subject unsold, 8s. 6d. each.—PEARSON & GALE, Marlborough. u.34

HONEY 6d. PER LB.—Finest Australian, 60-lb. tins, 30s.; 9-lb. tin, 7s. 6d.; sample free; all carriage paid.—HERBERT & CO., 28, Southwark Street, London. Established 50 years. r.u.16

SCREW-TOP HONEY BOTTLES, best quality white flint glass, 1 lb., 4s. dozen, 42s. gross; ½ lb., 3s. dozen, 32s. gross.—COBB, 33, Bevan Road, Plumstead. u.15

YOU wouldn't "swop" a Masheath for any two other hives. r.t.62

MASHEATH (REGD.) HIVE, the hive of the day. Direct only from the originator and maker. Price List.—ATKINSON, Fakenham. r.t.63

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

FINEST ENGLISH HONEY, in 28-lb. cans, 1s. 6d. per lb.; cans and carriage free.—PEARSON & GALE, Marlborough. r.14

EXCEPTIONAL OFFER.—*Adminson's Breeder Hive*, fitted with ten standard aluminium semi-combs, costs £4 2s., carriage forward. Worth double this price.—For Adminson's Hives and Appliances write to JAMES LEE & SON, LTD., Uxbridge. r.u.23

"THE APIS CLUB."—If you have a live interest in bee culture as a science and a craft, you should join THE APIS CLUB. Membership fee, 10s. 6d. per annum, and includes the free delivery of "The Bee World" as published.—For advantages of membership write to the Secretary, THE APIS CLUB, Benson, Oxon. r.o.37

TO BEEKEEPERS.

Preserve your Stocks for the Winter by feeding with Medicated or Plain

BEE CANDY

Manufactured by

HAWKES BROS., ltd., CHELMSFORD

PRICES ON APPLICATION.

Is it Playing the Game?

We promised to give our views on the much-discussed question of the moral right of anyone to put out decoy hives. We say moral right advisedly, for, so far as the law of the country is concerned, the practice is *not* illegal, as many people think. Nearly all those who have written on the matter have apparently forgotten that there are two sides to every question, nor have they taken into consideration the law as to ownership of swarms.

Personally we have no objection to decoy hives providing certain conditions are observed. It must be borne in mind that if a bee-keeper sees a swarm of bees issue from one of his hives and *keeps them in sight until they cluster, he can claim them, or their value, wherever they finally come to rest, whether it be on the bough of a tree, or in an empty hive.* A stray swarm, that is one that has been lost sight of, becomes the property of the person on whose ground it comes to rest, or as often happens of any one who can capture it. It is much better from every point of view that a stray swarm should occupy a properly-fitted movable comb hive rather than a hollow tree, or wall, or the space under a roof, etc. Wherever it has gone, its original owner has, in any case, lost all claim to it.

It may happen that the original owner of the swarm may not know that his bees have swarmed and gone to an empty hive, but the owner of the hive may know from whence the bees came, and to whom they belong. Under those circumstances there is, for anyone with the least sense of honour, only one thing to do—either restore the bees to their rightful owner, or pay for them. If the above conditions are observed, we see nothing reprehensible in the practice of putting out decoy hives.

There are, however, other sides to the question. Instead of following the course laid down in the previous paragraph, someone may put out decoy hives *with the deliberate intention of sneaking* (there is no better word) *his neighbour's swarm, or swarms.* That is decidedly *not* playing the game, but is a most contemptible proceeding. Even worse than this may be—and we are afraid is sometimes—done. Not only has the owner of the decoy hive no intention of returning the bees, even though he may know from whence they came, but leaves open decoy hives *filled with combs infected with disease.* This is, as one correspondent put it, "playing the dirty game"; in fact, it would be better described by putting the strongest adjective one can make use of before "dirty"—which would probably be one that is too strong for us to print. There would be no question of returning to the owner a swarm that had occupied such a hive and combs, if only for a short time. No sensible bee-keeper would want them back, and the only satisfactory cure would be to compel the owner of the hive to pay for the bees, and then suffocate them and burn all the lot—hive, combs and bees.

As we have already remarked, there is no law to prevent anyone putting out decoy hives, even if they contain combs reeking with some infectious or contagious disease. That is part of the "case for legislation" which we advise opponents of legislation for bee diseases to ponder over.

Thermometer for Candy Making.

We have made arrangements with a manufacturer of thermometers who is also a practical bee-keeper, to supply a thermometer specially designed for making soft candy for bee food. It will be known as "The B.B.J. Ideal Candy Maker," and we hope to be able to supply them very shortly. They will be made in two types, one plain glass at 5s., the other in a brass frame at 6s. 6d., postage extra. Further particulars will be given in a later issue.

Jottings from Huntingdonshire

I have seen a queen, a real live queen bee, in full lay. Her markings were those of a very mixed hybrid; she might almost be dubbed a mongrel, except that it seems almost disloyal to describe even a royal insect as a mongrel. She has Italian blood in her veins, and Dutch blood in some of her segments. She is quite young, and has passed through many baptisms of nectar. She came to light in the grounds of a noble woman not a hundred miles from Lincoln, and was given a home in a box, which might have been made in the days when King Alfred burnt his cakes or allowed them to be burnt. Domiciled in this crude structure she set to work, and called upon her subjects to make cells. They did, and she filled some with eggs, and they some with honey and pollen. The day came when the box was closed, and, with the bees confined therein, packed off by rail. That they were a fortnight reaching their destination is a detail; of more importance was the fact that the railway porters, unable to distinguish the top of the box from the bottom, placed it down and let the bees take their chance. As always happens in these doubtful cases the bees were tipped wrong side up, and, of course, got a trickling shower of honey. Being nothing, if not resourceful, the dear

creatures set to work to repair their loss. They gorged themselves with honey, and then began comb building from the bottom, which was now the top. So far so good, or, rather, so bad. In this condition they were transferred to a W.B.C. hive. Combs were bulged and higgledy-piggledy, so the frames were spaced an alarming distance apart. Those darling bees, oh! such darlings they were, filled up those gaps with more comb and filled same with brood and nectar and pollen; they were, in fact, preparing right royally for the winter when I came on the scene. I was asked to reduce chaos to order, and, incidentally, I should say that to do so I had to extend order to chaos—we mix up our ideas in England, and our speech often bewrayeth us. However, to take these combs which had the appearance of the surrounding landscape—a charming undulation—and tie them into frames was not the easiest nor least sticky job connected with apiculture, but alone I did it, and felt as heroic as Uncle Podger. Just then the dear lady, who owned the bees, asked to see the queen. I found her majesty, and oh! the adoration she received; indeed, the flattering phrases flung at her caused her royal highness to hide herself from view. "The darling! Where's she gone? I do hope she won't fly away. What shall I do if she leaves me, my precious queen? Do they ever leave their homes? Are you sure she's all right? Laying is she? Do show me an egg! What happens when the egg incubates? What's that dark capping—brood? Really, and that coloured stuff? Pollen, how interesting! Will they live through the winter? Want feeding will they? How much candy will they need? Six pounds? More expense. When may I expect to get some return? Next year if all goes well, thank goodness! I want to keep a lot of bees if they pay. Is that dear queen safe? Quite sure she hasn't flown away? Safe is she, that's good. Now let us go and have some tea."

We tea'd and talked of bees, and hives, and skeps, and swarms, and honey and profit, and then I was taken up to a lofty place and shown some hives. Dimensions about 1ft. by 2ft. 6in., depth about a yard. I didn't see any date, but should imagine they were made some time between the Norman Conquest and the American War of Independence. I smoled a smile, but rejoiced to note the good lady developing the first symptoms of "Beeitis." I hope she will be at fever-heat when I next pass that way. She is a first-rate poultry-keeper, and has some of the finest Buff Rocks it has been my privilege to see. I'm sure she will be as thorough in keeping bees, and if she, as I hope she does, takes the BRITISH BEE JOURNAL, I pray she will forgive my playful humour. I will not mention her name, nor the place of her abode, but since I see in her a promising addition to the apicultural world, I will go so far as to say she lives in England's smallest county, and near to where the Welland winds her way on to where King John lost his jewels.—E. F. HEMMING, Steeple Gidding.

A Visit to the Violet Farm.

Readers of BEE JOURNAL "Dorset Yarns" must, I know, often have wished for closer personal acquaintance with the author of those delightful contributions, and may perhaps like to hear a short account of a fortnight's stay which I and my wife have just spent as the guests of Mr. Kettle.

It happened luckily on our arrival that Mr. Kettle was on his way to look at some driven lots of bees and decide on winter treatment for them, and invited us to see his valley farm and out-apiary. The invitation was eagerly accepted, and we walked down a sheltered, warm valley by lines of trees laden with mellow fruit, the uniform and healthy condition of which testified to the salutary visits of eager scrambling bees at blossom time.

Mr. Kettle told us much in pithy, terse sentences of the history and development of his farm from a small nucleus to its present size of a hundred odd acres, with bountiful yield of fruit and milk and honey. His famous raspberry, then yielding a handsome second crop of generously sized luscious fruit, particularly struck the eye.

Near the end of one section forming the fruit farm we arrived at "Bee-town," and my first impressions were that no position could have been selected which would blend shelter, shade and warmth more suitably. Any eye could have seen that the stocks were mainly in good heart. A few, however, were in an uncertain state and with the judicious use of smoker and carbolic cloth these were examined. Not one bee was challenged to battle, and one could not but see that to keep bees guessing and quiet during operations, these two devices supplement each other admirably.

Mr. Kettle keeps a card record in each hive. That is a useful practice. How many of us do it? A reference to such records tells what one ought to expect, and if one does not find it, there is something wrong. Having diagnosed conditions of each hive, those with lean larders were given some loot from their neighbours, and a weak lot was marked for uniting later. A clearer board was placed in another hive to steal, without commotion later, the last storey of golden store.

The glass quilt in use in all Mr. Kettle's hives must have great advantages for observation at any season, particularly winter. It helps to locate "duds" easily, and Mr. Kettle ruthlessly deals with duds in the animate or inanimate nature from which he draws his produce.

Mr. Kettle showed us his boundaries, for he invited me to shoot what game his acres provided. I broke bounds sometimes, but I am sure I must have forgotten the exact confines. I must say that Mr. Kettle's skill in husbandry is equalled by his skill in driving partridges. That I did not have a right and left always was not his fault, nor, of course, mine, but entirely due to something easily explained after dinner.

Mr Kettle proved during our stay the "open sesame" to all the beauty and

grandeur of the district. His inquiring and minute observation helped us to notice the varying forage capacities of the wild and cultivated flowers in bloom

Another bee-keeper of the neighbourhood, to whom Mr. Kettle introduced us, provided an instructive morning. He is endeavouring to recover and fix the characteristics of the golden, and is working to that end on the remnant of a pure strain obtained from the late Mr. Sladen in pre-war days, but diluted many times since during his absence in the Navy. His patience and thoroughness will, I know, bring their reward, and to judge by one stock have in no small measure done so. I have hopes that this bee-keeper will tell us all one day of his work, for it is obviously, according to sound principles of Mendelism, and these principles no bee breeder should fail to follow. He finds that later matings are possible in Corfe Mullen than elsewhere, and by prolonging the lives of drones in selected stocks is able to solve the elusive problem of controlling mating on the male side.

Normally he uses the drone trap for that purpose, but that method must sometimes fail, for one cannot drone-trap all the hives in the neighbourhood within a queen's flight radius.

A visit to Blandford Show on September 30 showed us that Dorset, particularly East Dorset, can reach a high order of excellence in its honey and wax production.

Mr. Kettle was judge, and his task must have been one of great difficulty. East Dorset had five awards out of eight, and but for a technical disqualification on account of colour would have secured some few more.

Of Mr. Kettle's honey, which was not, of course, entered for this competition, I must testify to the delightful quality and flavour. A two-pound section appeared and disappeared each day on his tea-table. It gave surprising encouragement to the appetite.

We left Corfe Mullen refreshed in mind and body, and will long treasure the memory of our holiday at Violet Farm.—J. BARRETT.

Jottings from Ashdown Forest.

(*Continued from page* 490.)

Some years ago there was started a British Honey Company. What became of it I don't know; but I suppose it went smash. But if it still exists, and is sending our English honey overseas, there is no need to undercut; the quality of English honey would command a much higher price there than it does here. The world over there are people that can afford to pay any price for the pleasure of consuming honey of the flavour and quality possessed by that blended from the many sources English honey is derived from. For many years I have had the opinion British bee-keepers make a great mistake in trying to separate their run honey into classes such as clover honey, sainfoin honey, heather honey, etc. It is the blending of all honies of the season that made up that delightful combination of the old-time skeps that got the fame of being the real stuff, as against *shop honey*. Sections are sections, and they are generally filled with pretty much one kind of honey, some most delicious, others indifferent. The buyer, if he gets one delicious one time, and later sends to what he thinks the place he has found to get good honey, gets several kinds, none of which are like the first one, considers he has been had, and no more is heard of him. No bee-keeper can sample every section sent out, but he can be sure of run honey if it comes from a bulk well stirred.

I have had more experience this year with what I consider the bee-keeper's abomination, the W.B.C. ends. Having decided to sell bees as well as honey, it appeared I must have frames with W.B.C. ends, so have put a considerable number in use. It is only this year it seems to have become known W.B.C. was not the inventor and original maker, driven out by paltry imitations. Maybe my experience has only been with the latter. They are draughty, too narrow a margin for putting supers on, not safe to handle by when with only one hand, for travelling they shuffle out of position and let bees get crushed between combs, cleaning top bars they get pulled up, in varying weather the thin cold metal induces more condensation: extracting they are a nuisance. Why leading hive-makers have not long ago discarded them is a mystery to me. All my shallow frames have blocks on alternate ends, nailed with two fine nails, brood frames the same, except for having some for sale.

Hives having the name of "W.B.C.", though so extensively sold, I have no better opinion of. Very few seem to put them up as they should be. My own I am altering by putting fillets round top and bottom of brood chamber, making them a fixed brood chamber. It is most important that a hive should be easily lifted for examination or cleaning of floor during periods of the year.

Re home-made comb foundation, I am pleased to see, although so few have touched on a subject I hoped would get full discussion, the old article I referred to was reproduced. Much as I admire the modern machine foundation, I prefer the moulded foundation, which, although it runs about six sheets to the pound, the additional wax is well spent. In general, the bees scoop it, and with it make a good part of the comb. This summer I have come across machine foundation that bees objected to, to say nothing of sagged and broken-down combs. I would also say some made by myself have this season been worked erratically, apparently through using a thinner sheet for the mould pattern, which is not strong enough to come out well. It would be interesting if those that have tried since the article was last published gave us their experience. Though very young myself when it was first published, I went in for it, and during all these years improved on the method given: stranger still, I never have known anyone else to go in for it, or even seen any comments on it. During the coming winter I hope to make some new moulds nearer perfection, and if successful will be willing to show them to any reader or write an article for publication.

Now for a little item of advice to new bee-keepers, who doubtless have been disappointed

with the honey results for this year, advertising and newspaper articles having netted them in the bee-keeping net. I saw the article and illustration in a (if not the) leading daily, which doubtless many have gone in for, a hive under the paper's name advocating the principle of frames across the entrance. Among the advantages claimed was the prevention of draught. From years' (full years) experience I have found that to be wrong, and for years have not expected a stock to survive unless a super (sections or shallow combs) is left on for the winter. In the first place there can be no draught, even with entrance fully open, if there are no draught holes left by the manipulator. Bees cluster on the front combs, generally stored with plenty of pollen and very little honey. A tit or other enemy induces the bees to keep in front, there being some difficulty running down and under the bottom bars (often too low down) to challenge who's there; the diminishing of the cluster, and they are away from the abundant store in back combs, starvation results. Winter passages through combs, strips on top, etc., are not reliable, but a rack of sections or shallow combs with more or less store does the trick: they will go over and down for food, but not under and up. If frames are straight to the entrance they draw back, and can thus easily come down to see who's there, or go back to get store, or out of the way of temporary colds Also, when a feeder is on, robbers are more troublesome, and, in fact, when any robbing is on the go.—A. J. RIDLEY, Honey Common, Uckfield, Sussex, October 11, 1921

[The last paragraph is printed as written by our correspondent. We hope the beginners for whose benefit it was penned will be able to understand it all. Whether frames of comb should be parallel with, or at right angles to, the entrance is, like many other things, a matter of individual opinion. There are advantages and disadvantages in both methods, but personally we prefer the combs parallel with the entrances. If the bottom bars of the frames are too near the floor board it is due to faulty construction of the hive. We quite agree with Mr. Ridley that there is not likely to be too much draught if the quilts fit down properly and no draught holes are left at the top of the brood chamber.—EDS.]

Cotswold Notes.

In spite of present-day knowledge as to the causes of natural swarming, and the facilities offered by modern hives of checking and controlling it, swarming would appear to go on as vigorously as ever during this particular period of the bee year.

Possibly in some ways this is just as well, though it is generally conceded that whenever a colony swarms, the prospect of a good yield from the parent colony is poor, and, in apiaries where excessive swarming takes place, the amount of surplus is very much reduced.

As is well known, a good deal depends on the locality and the season.

The weather may totally upset any of the approved text-book methods of swarm control; on the contrary, under some conditions any one of them might prove successful. There are times when moderate swarming is an advantage, and the increase proves useful where the swarms can be captured.

However, in such colonies as are devoted to producing honey, everything is to be gained by holding the working force intact, for swarming wastes valuable time. If the bees are healthy, and were properly cared for in the fall, the majority of stocks may be expected to be prosperous in the spring.

A good deal is to be said in favour of clipping all queens during fruit bloom. It forestalls any possibility of the first swarm absconding. Though the queen is sometimes lost, it is better to lose her, and make sure of the bees returning to their hive, than for the swarm to fly off to the woods. To my mind, clipping serves as an insurance against first-swarm losses to outapiary owners.

Well before the swarming season opens each strong colony should be given a deep super of worker combs, without an excluder. When work has been commenced in this chamber, and brood raising is going forward strongly, the hive front should be blocked up to extend the entrance the whole width of the floorboard, and deepen it by about $\frac{3}{8}$ in.

This free entrance will counteract any early desire to "loaf," and allow adequate bottom ventilation. Every effort should be made to keep these combs full of brood, and, in order to give room for incoming honey, another set of combs is given, spaced nine to the super, and over an excluder if the weather is only moderately good. If this chamber is added during a good flow, the combs will be filled before the queen has time to ascend, and therefore they form an effective barrier. All honey stored in this chamber is eventually extracted.

It is at this juncture that the swarming impulse will be most pronounced, and occasionally even more ventilation is needed. The quickest way of giving this is to place a deep super of frames containing foundation between the floorboard and lower brood chamber. Though the bees may not use it at once, it will enable them to spread out, and when the foundation is drawn out, a good deal of pollen will be stored here instead of in the brood nest proper.

It is a distinct advantage to carefully examine all stocks suspected of making an attempt to swarm, in order to remove any cells that may have been started.

Where this can be done once each week during the first month or so of the swarming period, very often no fresh cells will be made by the bees. Whenever this is done, a record must be made in order to prevent any being overlooked when work is pressing.

Practice has proved that stocks thus arranged will go steadily ahead with honey storage. In a poor season they might not produce exceptional yields, though, being so powerful, there is every likelihood of them doing so during even a brief hot spell. In a

good season they certainly will give double the yield of some single brood-nest colonies.

Hives on the principle of the "W.B.C." pattern, which can be tiered up, are, of course, necessary. At the close of the season the lower chamber is removed, and one deep super should be left on to hold the bees, and sufficient stores to ensure them wintering in good shape. A. H. BOWEN.

Notes from South Devon.

On Saturday, October 1, I put my bees in their winter quarters, not giving any candy, as there is a good supply of natural food for them in the way of honey. The bees are much stronger in the spring when winter fed on natural food; disease, too, is less prevalent! That is my experience. It was a pleasure to see such numbers of bees on the combs, and very strong. All the brood has not emerged. Is this not late? One would imagine the season to be May or June, judging from the busy workers. They are coming out of the hive a dozen at a time, and no time is wasted. They rise into the air and go to a wall that is covered with a thick mass of ivy in full bloom. When they return to the hive they drop on the alighting board, so heavily laden are they with pollen. I notice most of this pollen is a reddish yellow colour. That is got, I believe, from the violets and tropæolums. The latter is a favourite flower for them. On going into the garden this morning the hum was a contented sound, and the bees were flying from flower to flower. In my garden there are thick beds of these flowers, and should the frost keep away they continue flowering until late in the season. Any unsightly object is soon covered with the showy tropæolums, and very gay the garden looks in the late autumn. There are some fine specimens of sunflowers, yucca, and perennial asters, of which the bees are very fond. The thyme is also a great favourite. Violets are coming out well, and the whole garden is full of their scent. Some late kidney beans are flowering profusely still, and the bees visit them continuously. How late and early they are working this fine weather! As I went to early service at 7.30 a.m. many bees were out on the ivies. Here in Devonshire the tall hedges or "withies" are simply covered with ivy, and the bees are reaping a rich harvest. All my spring flowers are in, and some, especially the arabis, are blooming. Several outhouses I have had covered with trailing stems of loganberries, the flowers of which are visited by the bees in early spring. Around my garden is a tall wall, and wherever possible I have dropped seeds of arabis in the chinks or crannies, so I hope to find quite a gay display in the early spring. As one wall faces south, and being covered with arabis and wallflower, this ought to be a paradise for the bees early in the year. Already there are many Christmas roses in bloom. There is also a good show of late raspberry blossom. This, too, is a favourite flower of the bees.

As I have just finished putting the bees in their winter quarters I am cultivating the soil around the hive, and hope to fill that with onions (eschalots), which sprout very early and which, in my belief, ward off disease.—GEORGE ORD, Dimson Cottage, Gunnislake, Tavistock, South Devon.

Dual-Queen Work—The Double-Six System.

Mr. Ellis ("Notes from Gretna Green," October 13 issue) doubtless refers to my Double-Six system of *dual-colony* working, and what is rather a different proposition, but equally provided for in the double-six Masheath Hive—dual-queen working *in one colony*.

It is only in special circumstances that dual-queen working in one colony can be of any value, if any value at all, such as conditions at the heather, when it is desirable to block the brood chamber against storage, and force all honey above. Complications may ensue, and in his later notes, Mr. Ellis will probably throw some light on it.

He writes of 5-frame chambers in his operations. That size is his own adaptation of the double six system of 6-frame chambers, and, of course, is intended to meet the needs of his own equipment or circumstances. It will probably apply to the majority of cases where a bee-keeper's plant is not wide enough for more than a double-five arrangement.

In deciding upon a suitable chamber size it is necessary to avoid having it too small. I consider the 6-frame chamber quite small enough and ideal for the appreciation of a good queen and her bees. Two such chambers placed side by side, are just nicely accommodated in the ample area of a Masheath Hive, which accommodates either 10- or 12-frame chambers.

Accordingly the "Double-Six" Masheath model was evolved and listed by me in 1919, and since, avoiding two sizes of hives in my list, and maintaining interchange of parts.

It is freely acknowledged that to unite the foraging forces of two colonies for the honey flow is advantageous—if effectively done. A measure of success is obtained by uniting the colonies of two adjoining hives, but it is questionable whether the result is all the operator has aimed at, because of disorganisation of stands. This defect is very much greater where a number of colonies are treated.

Ten colonies and ten stands, reconstituted as five colonies and five stands, with the further five stands needed to care for the five spare queens and remnant bees thrown out of the storing force, means a considerable complication to the flies. The manipulation is discounted by disgruntled fielders at the disorganisation of stands. Many will fly aimlessly about, very often settling where they are not desired in any scheme of united effort.

But the aim is a desirable one, therefore, suppose we argue backwards. If stands are not disorganised we get no disgruntled fielders, save the discount, and hold up no work. This we can secure by having ten

colonies in five hives—five stands—and not a doorstep changed to reconstitute the whole as five colonies, again five original stands. It indicates we must turn our attention to the hive, the key to the problem.

Every W.B.C. hive, with a lateral spread of the brood combs will hold but one colony. With a vertical disposition it will carry two perfectly, and give each colony a front entrance sufficiently distinct to persuade the bees to respect their own sides. With some tinkering the hive can be made to provide the needed isolation of colony from colony on the floor-board, through the entrance, and on the alighting board. All else is amply secured by having half-width brood chambers, and tiering up each colony, and its household goods; depth instead of width, one of many valuable features in vertical disposition. For the time being the ordinary big brood chamber is not wanted, nor is its division board. Thus you will have your double-six or double-five dual-colony hive, whichever circumstances bind you to.

It will be seen the expedient of partitioning a big chamber with a division-board of any kind *to divide two colonies*, has no place in my dual-colony system. To attempt it in the vertical expansion, which is bound to follow as colonies progress, would speedily bring complications.

Having then made the necessary hive adjustments to five hives, and procured a working outfit of six chambers of six-frame capacity for each hive (eight chambers for eventualities), put the ten colonies of bees into them *in the autumn*, thus arranging, there and then, the five stands which will carry the supers for the field force of ten colonies next honey flow. The uniting of forces cannot then disorganise anything. It can be done in April, but better if done in autumn, as the double-six system includes a great deal more than merely uniting forces. Producing the forces is an important and earlier detail. Wintering them is another, and all depend largely on an autumn start.

The now five empty and unaltered W.B.C. hives (autumn), will be in the best place if you can put them out of sight. In any event, as far away from the new stands as possible. They will be needed in May to care for the five dethroned queens and remnant bees arising after the honey flow uniting.

Such is the broad outline of my double-colony system worked in one hive on the vertical principle of expansion. Its objects are: To winter colonies in pairs in single hives, chambers tiered, and in wall contact to maintain colony warmth at the right periods; to encourage rapid brood production at a minimum of effort to keep up the necessary warmth and so defy the bad effects internally of cool and chilly springs; to permit of spreading the brood without spreading the colony's heat or increasing the area of the active brood producing apartment during the cool periods (early spring); and, later, to unite all fielders of both colonies in one combined effort for profitable honey production when the flow arrives. Only in the latter is the big ten- or twelve-frame chamber put into use, to be displaced again as soon as the supers are removed for the season; the colony being again arranged in half-chambers, tiered and confined to the entrance on their side.

The hive is then ready for another colony to be put into the other side, and thus prepared once more for the next year's work.

In addition, by the use of special double-zinced excluders, the production and mating of young queens in every colony is made feasible without any more fiddling about than giving the virgin's chamber the floorboard, and thus the entrance of the full colony for mating flight of the young queen.

It will be apparent the double-six hive has a round of activity exceeding the single hives, and a range of adaptability the latter do not possess. The study it affords of dual-colony working is of engrossing interest to a keen bee-keeper who favours development. In the working out of the system and the handling of the colonies there is a wealth of detail I wouldn't dare to expect the editors to find space for.

To get over the difficulty readers can help themselves by taking advantage of the offer in the advertisement column of the loan of typescript copies of my Cambridge lecture (1920), which goes fully into the dual-colony system and its hive.—M. ATKINSON, Fakenham, October 15, 1921.

British Association.

LECTURE BY DR. JOHN RENNIE.

The following account of a lecture by Dr. Rennie, who addressed the Zoology Section on "Acarine Disease in Hive Bees," is given in the *Scotsman* for September 14:—

The lecturer said that the organism which was invariably present in bees suffering from "Isle-of-Wight" disease was a soft-bodied, colourless, eight-legged creature, invisible to the naked eye. It belonged to the class Acarina, and ranked among the tiniest of a group of animals whose popular title served as a common term to indicate excessive smallness. This particular mite, though one of the minutest of its class, had a complex organisation, and had much in this respect in common with the bees themselves. Pairing of the mites took place within the bee, and subsequently the fertile females migrated to the outside and entered fresh hosts. These mites did not appear normally to exist apart from the bee for any great length of time; they were true parasites, breeding and increasing in numbers within it, feeding upon its blood, which they did by piercing with needle-shaped mandibles the breathing tubes, and imbibing the surrounding blood.

All types of adult bees, said the lecturer, were liable to be affected—worker, drone and queen. The result of the secure establishment of a colony of breeding mites within the respiratory system of the bee was a progressive weakness, which was primarily due to a continuous loss of blood, resulting from the feeding of the mites. The supply of oxygen was restricted, and there was evidence of muscular degeneration. As bees became

weaker they ceased to share in the co-operative work of the colony, whose disorganisation was the culminating crisis in this disease.

The study of the disease in infected colonies had revealed the important fact that there was a considerable period after infection was established during which the affected bees flew, gathered pollen and nectar, and carried out the usual routine of a mature bee. The disease was in a sense, a chronic one, and individual bees had been found which had outlived the whole infestation, and had got rid of it. But this period of activity of sick bees was probably mainly responsible for the spread of the disease, for it permitted of the mingling of bees of different stocks, by robbing, drone wanderings and errant visitors to strange hives.

It appeared to be the case that the majority of stocks in which the parasitic mites obtained a footing eventually succumbed. But extinction was often delayed for a long time, this depending on whether the fertility of the queen was more than making good the losses from disease. Also, the infection might have originated from a single bee within the stock or from hundreds robbing a diseased one, and such differences alone were sufficient to explain variations in the rate of spread within the colony. It was quite clear that, in some cases, the infection died out, and it would probably be found that there were racial differences as regarded capacity to work in a diseased condition, although there was no evidence of racial immunity from infection.

An important result of the present investigations was that we were now in a position to distinguish within the former category of "Isle-of-Wight" disease several maladies from which adult bees in this country might suffer. With this knowledge, the study of insect diseases generally had made a definite step forward. The most important of bee diseases at the present time was acarine disease, and investigation as to methods of control were now in progress.

The lecture was illustrated by lantern slides and photographs, tracking the life history of the mite and pathology of the bee. A diseased colony was also demonstrated.

The Grocers' Exhibition.

By far the best grocery trade show ever held was the exhibition at the Agricultural Hall last month. Australasian exhibitors occupying prominent positions included "Glaxo," "Kiwi," and the Australian Soap Co.

A great feature this year was the section devoted to the British Bee-keepers' Association, who had a wonderful collection of honey, hives, and apparatus connected with bee culture. Several Australian and New Zealand visitors were specially interested in this section, and quite a number of inquiries were made by those who contemplate keeping bees on their return to the Commonwealth.—From the *Australasian Trade Journal*.

Bee-Keepers' Associations.

I.—British Association.

By L. Illingworth.

Now the busy season is over, and all good bee-keepers have completed their arrangements for wintering their stocks, I propose to put before the readers of the "B.B.J." some criticisms, and to suggest some improvements in regard to our B.K.A.s, in the hope of initiating a discussion which may lead to an increased activity and usefulness on the part of our organisations. To make my article still more practical, I further propose to give some account of the Swiss B.K.A.s and to institute a comparison between them and our own Associations.

Having this year attained my majority as a bee-keeper, and during this time resided in four different counties and belonged to four different County Associations, and also to the "British" for nearly the whole 21 years, I feel I have some claim to express my opinions, and as I am obviously the friend and well-wisher of the organisations I criticise, my remarks are less likely to be misunderstood. I shall say quite plainly what I think, and I do not expect my readers will always agree with me, but my criticisms are not intended to be unkind, and I trust they will always be constructive. I hope many others will contribute to the discussion, and that they will observe the same rules. Abuse is no use, and mere grumbling accomplishes nothing. When anything wrong is pointed out, practical suggestions should be made as to how it may be remedied.

First of all, the objects of our Associations appear somewhat antiquated and their methods rather out of date and misdirected. In looking through the rules and regulations of most Associations one is almost sure to find "the humane treatment of the honey bee," "improving the condition of cottagers," or such like sentiments, placed in the forefront of the objects of the Association. Is not there something antediluvian about all this? I met an old gentleman some time ago who spoke of his desire to see a bee hive in every cottage garden. This was doubtless the ideal of bee-keepers a generation ago when it was hoped that skepists would adopt the modern system; but how many think it possible to-day, or even desirable?

Now I object to the singling out of a particular class (cottager) as the recipient of special favours, or the main object of an Association's work. I would welcome persons of all ranks without distinction as members, and endeavour to run the Association in the interest of all, from the large commercial bee-keeper or the wealthy amateur down to the humblest owner of a single stock.

Further, it is most important to have a clear idea as to what is the purpose of a B.K.A. Is it a charitable society preaching a gospel of bee-keeping for all, or, at any rate, mainly interested in increasing the number of bee-keepers, or is it a society run by and for bee-keepers to protect their interests and to obtain by association opportunities for mutual improvement to develop the craft and encourage the breeding of better strains of bees in a way that would be difficult or impossible by purely individual effort?

I need hardly say that I prefer the latter alternative. In these days, when most people find their incomes do not go as far as they used to do, before subscribing to anything one is entitled to ask: "What do I get for my money?" I learnt not so long ago that the B.B.K.A. originated from the Royal Society for the Prevention of Cruelty to Animals. If this is true, both it and most County Associations, whether affiliated or non-affiliated, still appear to be suffering the effects of their origin. I say nothing against the R.S.P.C.A. or any other charitable organisation, but if B.K.A.s generally are charitable societies for preventing cruelty to bees and promoting the welfare of the cottager, I cannot help feeling that what I can afford to give to charity can be better expended than by subscribing to Bee-Keepers' Associations. If B.K.A.s are not charitable societies, then members have a right to expect to gain something by subscribing. This brings me to my next point.

Many members get little for their money. The efforts of our Associations are misdirected. My contention is that the chief concern of a B.K.A. should be for its own members rather than outsiders, and in so far as it is concerned with getting new members, it should look to bee-keepers rather than non-bee-keepers. Such a policy would pay, too, because people would join the Association for the benefits they would obtain, whereas under present conditions a good many people who keep bees remain outside our Associations, presumably because they do not see they would gain anything by joining. What is the average proportion of bona-fide cottagers to other members in our County Associations, and how many non-bee-keepers, who are attracted by the performances of the expert in the bee tent, become members of our B.K.A.s or make useful recruits to the ranks of bee-keeping?

I am not afraid of recruits falling off, and believe we might with advantage imitate the Freemasons in this matter. I understand it is against their rules to invite anyone to become a Mason, but if a person expresses his desire to enter their order, he is made welcome.

With the exception of insurance (which can be effected without belonging to any Association), and the vexed question of disease legislation, most County Associations confine their efforts mainly to organising honey shows and arranging for an expert's tour. The former helps to educate the public, and indirectly promotes the sale of honey, as well as providing an interest for a limited number of bee-keepers; the latter supplies valuable help to beginners. For the vast majority of members, however, who have passed out of the elementary stage, and do not need the expert's visit, and have neither the time nor the inclination for competing at honey shows, most B.K.A.s do little or nothing. There is one general meeting a year, which they have a right to attend, but this is a dull affair, consisting of such matters as the election of officers, etc., and all one gets for one's subscription is the opportunity of a short conversation with other bee-keepers either before or after the meeting, if there is time. Not much for the money, is it? The average bee-keeper, if he wants to learn the more advanced branches of the craft, consequently has to rely upon books, or his own unaided experiments. Indeed, he may well ask himself whether the money expended upon his subscription, and, possibly, travelling expenses, would not have been better spent in purchasing a good book on bee-keeping.

Someone will be sure to reply: "This is all very well. We would gladly do more if only we had the right men, and sufficient money to do it. We could do a lot if we had a Government grant, or even better support from bee-keepers themselves."

I should retort that the present policy of our B.K.A.s is not calculated to produce advanced bee-keepers ready to instruct others but only a large number of ineffective people who keep bees. As to financial support, I would quote a remark made by a member of the committee of a religious society, on which I had the honour to serve in the early days of the war. Someone had asked why other similar societies were able to raise money and do splendid work for the welfare of our men, whereas our society could get no money, and was doing nothing. The reply was that the best way was to do the work first, and raise the money afterwards. "If," said the speaker, "I go and beg money for our society, I shall be asked what the society is doing. If I have to reply, 'Nothing,' I shall not get anything, but if I can show that good work is already being done, people will open their purses." There appears to be a good deal of wisdom in this remark. Let our Associations scrap their antiquated aims and methods and do something to benefit their members, one and all, not merely a section of them, or the general public, and increased support from bee-keepers will soon be forthcoming.

(To be continued.)

The Silent Marauders.

The heat somewhere about 75 this afternoon (October 6, 4 p.m.), so I thought I would spend ten minutes in my neighbour's garden and see how many of my bees had found his two kinds of Michaelmas daisies, one a large kind like a white Marguerite. But the bees; there were hundreds of them, flitting from flower to flower as silent as death. If they were finding anything in the flowers they were awfully quiet about it; not a hum, nor a sound, and it was very little pollen they were bothering after, for not one in a hundred had any on their legs. I had never noticed this before, but I will have another look early in the morning when I come from work.

October 7.—Been a shower in the night. I did not see any bees on the daisies till I got up at 2 p.m. Temperature 66 deg., rather dull and windy, only about ten or twelve bees at work, but they were humming merrily. Why hundreds of bees should be working silently on a hot, sunny afternoon with not a breath of air stirring seems a mystery to me. Did anyone else notice this curious phenomenon?—Tom Sleight.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Is Skep Honey Best?

[10547] In the current issue of THE BRITISH BEE JOURNAL is an article by Mr. Tweedie headed "Sussex Notes," and this article contains some remarks on skeps which I do not understand.

Mr. Tweedie says that with modern large-sized skeps, with a hole in the top so as to carry a good-sized cap, one can obtain honey in the comb such as is impossible to be made in the modern frame hive.

Presumably Mr. Tweedie implies that honey so stored is superior to honey stored in sections in a modern frame hive; but is it, and, if so, in what respect? Most assuredly not in convenience of handling or storing, for I should imagine few more messy jobs than securing honey thus stored can be conceived.

On two or three occasions this year I have noted claims on behalf of the out-of-date skep which seem to be unjustifiable, and it would be interesting if the champions of this antiquated method of bee-keeping would let us know what single advantage the skep possesses beyond its low first cost and picturesqueness.

I should be much obliged if any of your readers could tell me if 2-lb. sections are procurable nowadays. One rack of this size which was left over from pre-war times was filled exceedingly fast by my bees this year, and I should like to get some more if possible. Taylors, of Welwyn, sold them before the war, but they do not appear in any recent lists.

In this part of the country the season has been the best for fully ten years, and the honey of unusually good quality all through the flow.—EDWARD T. B. REECE, Cardiff, October 22, 1921.

Legislation.

[10548] I have been a constant reader of your BEE JOURNAL for several years, and I do not think I ever read a more certain reason why legislation must and should be pushed than the article written by Mr. Tom Sleight on his "Bees in Derbyshire," pages 454 and 464. He states that in February he had three lots dead from Isle of Wight disease, and others crawling. He sprayed with Izal, apparently curing the remaining bees. Afterwards, when they had gained to an enormous-sized brood nest, he divided into eight nuclei. Now, does that either look or is it practical bee-keeping? Afterwards he takes these doubtful bees eight miles to the heather, so by that way putting two districts as "unhealthy ones for good bee-keeping." From my own experience, I have had all my bees affected, and, with every care, they were impossible to cure. The first lots attacked I sprayed with Bacterol twice daily, and re-queened, but, in spite of everything, they died 1917. These bees were, with one other affected lot, the only bees in the district; all the rest had other experiments tried on them and died.

Spring, 1918, I bought a fresh lot from Yorkshire, put in a fresh, clean hive. All went well until my neighbours began bee-keeping again, and did not think it necessary to thoroughly clean up, as I had done; so, of course, 1920, the bees in this district all died from Acarine disease, in spite of again trying disinfectants, etc. All died January, 1921.

To-day, October 14, my two Italian stocks of bees are splendid; they are made up from an eight-framed Italian stock, purchased from South Staffordshire, April, 1921. They have given to me over 40 lbs. of excellent honey, and a nucleus, which is now on ten combs. But I hope, very sincerely, that before my neighbours re-start bee-keeping legislation and protection will be ours, both for their bees and mine, and all their bee appliances will be thoroughly overhauled, as mine were. I wonder if Mr. Tom Sleight, or his admirer, J. Sowrey, would like all their hives put into danger by their neighbours experimenting, investigating, and observing, when they knew it was only to end in disaster, as my neighbours' and mine did. I would not have even tried, but, being among the last in an infected area, it was not any danger or loss to my fellow bee-keepers.

From my point of view, legislation and education in bee-keeping are very necessary things, both for the bee-lovers and fruit-growers—legislation to protect, and education both to interest and instruct, and to show everyone most clearly why not to experiment with disinfectants on bees, and only spoil the flavour of their honey, as I did with Izal in 1919 on my second lot, in which year I took 140 lbs. from one stock, which died after my neighbours' bees contracted Acarine disease in the autumn, 1920, and died during January. In July, 1920, I noted crawlers. Izal again tried; all bees dead January, to my great annoyance, as early that spring my bees were classed as some of the best stocks.

I like the Editor, will be interested to hear how J. E. Young progresses with his diseased bees sprayed with Yadil, as I have tried Izal and Bacterol, and failed to cure. I think we should be content to leave the experiments in such hands as Dr. Rennie and his helpers; surely they will soon find the cure now the mite is discovered. All my honey is purchased again by my best customer, who wanted to purchase more than I was willing to sell, because she finds nothing can possibly take the place of honey as a food value and sweet.—F. M. S. WRENCH.

Crawling Disease and "Marmite."

[10549] Perhaps by relating my experience during the last two years I may be of service to bee-keepers generally.

Two years ago I lost all my bees—four stocks—from crawling disease. I sprayed until the garden reeked with the smell of disinfectants, but all to no purpose.

Last year I again lost two stocks, and this year started again with three. I have now six stocks, all going strong.

In July of this year, bees from one of my stocks started crawling. I had read of the onion cure, and the correspondence in the JOURNAL, which attributed the cure to the "vitamines" in the onion. That gave me the clue to the cure in my case.

I dissolved a teaspoonful of "Marmite"—which is said by the manufacturers to be rich in "vitamines"—in a pint of hot water, and sprayed a small quantity into the entrance of the hive. It was eagerly licked up by the bees. Underneath two boxes of shallow frames I inserted a box of drawn-out standard combs, and into these I poured, before inserting them, about a pint of the liquor. The bees quickly recovered, and gave me about 80 lbs. of honey during July and August. I frequently repeated spraying just in the entrance.

In another case I placed a broken comb on its side near the hive, and frequently sprayed the liquor into it; for two other hives I cut a tin lid in two, and cut two thin bits of wood to fit inside them, so that they would float and prevent bees drowning, and placed them on the sloping alighting board. In all cases they were eagerly visited by the bees, who licked up the liquor.

I gave each hive 12 lbs. of sugar last month, and in each pint of water I dissolved a teaspoonful of "Marmite." My bees are stronger on the wing than I have ever seen them at this time of year. To those who have never heard of "Marmite" I may say it is a vegetable product, and can be obtained at health food stores. To those whose bees are crawling, I should advise them to try it, but they might put a larger amount into the syrup.

In the summer time I used no sugar—only "Marmite" dissolved in hot water.—A. MUSTO.

Does Bee-Keeping Pay?

[10550] In answer to the above question, may I be allowed a little space in the "B.B.J." to give my experiences of bee-keeping in Sussex. Although but a novice, I have had good luck and bad, losing all my bees twice, the first time eight years ago. I made another start in 1914, but in my absence, while serving in H.M. Forces, they again went under in 1916. However, the old love was true love, for bees I must have again; so I got to work, and before long there was a nice fire going and a general clear up, hives and all, except a few frames which I boiled in the copper. Perhaps some readers may say it was for the want of knowing better, to go and burn the hives, but it was the best policy, for they were 10 and 12 years old—although I should like to mention age does not count, for I have two hives they say are 35 or 40 years old; they are observatory hives, made of mahogany, with hinged roofs, and space for smoker and tools underneath. I did not buy them, or I should not have them, for they weigh nearly 3 cwt. the two. Now, I started again in 1920, from a stock bought of Mr. Younger, of Cambridge, which gave me a nice swarm. I also found a swarm; that left me three stocks for winter, which all came through safe. This meant new hives, and I now have seven stocks well supplied with stores. My takings last year were 45 lbs. of honey; this year I have taken 668 lbs., sections and run. Expenditure for 1920 and 1921 was £43 15s. 1d.; credit, received for honey, £46 1s. 11d.; so I have a balance of £2 6s. 10d., six new and three second-hand W.B.C. hives, with seven good stocks of bees, so I leave the readers of the "B.B.J." to reckon up "Do bees pay?"—G. P., Chichester district.

[10551] I commenced bee-keeping in June, 1920, and out of curiosity I have kept a record of cost and return of my first stock, and have pleasure in giving you the figures, which I hope will be of interest to your readers.

I must first give a brief description of the locality in which my bees are situated; namely, one of Glasgow's numerous suburbs, and have on their north houses for about a quarter of a mile, then miles of fields; on their south one pasture field, then miles of houses; on their east, the city; and on their west suburbs, with intermittent fields, in which there are a fair number of lime trees. So you can see that the bees must have a hard time in finding nectar, etc.

DEBIT.

	£	s.	d.
One hive (complete)	2	1	6
One stock bees (Dutch) ...	5	0	0
One box-feeder	0	3	6
50 Sections	0	4	2
One pound super foundation ...	0	4	3
Sugar and candy	0	19	6
General appliances, i.e., smoker, veil, gloves, paint, etc., etc.	1	3	3
Total	9	16	2

CREDIT.

	£	s.	d.
One swarm (1920)	2	10	0
Five sections at 3s. each ...	0	15	0
37½ lbs. honey at 1s. 6d. per lb.	2	16	3
Two swarms (1921)	5	0	0
Total	11	1	3

Credit balance at October 15, 1921, £1 5s. 1d., plus value of hives, bees, and appliances.

The bees are down for winter with plenty of stores to carry them on till next year's honey flow.—L. W. INGLIS, Glasgow.

Does Bee-Keeping Pay?

[10552] You wish to know whether bee-keeping is a paying proposition? Yes, certainly, if the bee-keeper looks well after his stocks and spends money judiciously; so many men keep bees and will not spend money to keep them well.

I keep an exact account of my expenses and profits. I started this season with five stocks, two I reserved for honey-gathering, and three for increase and selling bees, either as swarms or nuclei.

EXPENSES.

	£	s.	d.
New queens	5	5	0
Appliances, wax, sections, paint, etc.	7	16	6
Advertisements, books, subscriptions, insurance, etc.	2	7	6
Honey and sugar for feeding ...	5	0	0
Total	20	9	0

PROFITS.

	£	s.	d.
Sale of bees, swarms, nuclei and stocks	45	10	0
Honey, 288 sections, 38 lbs. extracted, say 1s. 6d. per section and 1s. per lb. extracted ...	23	10	0
Total	69	0	0
Balance credit	48	11	0

I still have five stocks done up for the winter.—C. SAMMAN.

[10553] You asked a question in the "B.B.J.," "Does bee-keeping pay?" I see you have no answer to it up to the present, so I thought I would let you know of my experience.

My cousin and I started bee-keeping last year, and we just bought our appliances as we required them. We decided to keep an account, not to see if it would pay us to keep them, but just to answer the question which you have asked.

We started with two hives, and we had an outlay of £22 7s. We have recovered all our money, with 11s. 6d. over, and we have doubled our stock.

This is not the best district that could be got for keeping bees. The honey flow starts with the clover in June, and ends in September with heather (if any), as we never get the clover and the heather in one year—it is either one or none.

This is the first time I have written to the "B.B.J.," and I hope this information may be of some use to you, and you may use it in any way you like. My real reason for writing is in hope that it will encourage others to start bee-keeping. I will ask you, is this not very good results to recover one's money in one year, and have doubled the stock to carry on with? I also hope I have given you all the information you desired.—J. B. CLARK, 21/10/21.

[The result is very good. Very few occupations will not only return the money laid out in stock, but give a little over double the stock in one year. This is the kind of information we wanted, but it would have been better if items of expenditure and returns had been given.—EDS.]

Bee Shows to Come.

October 29.—Herts County Bee-keepers' Association, Barnet and District Branch. Honey and Appliance Show, held in Wesleyan Lecture Hall, High Street, Barnet. Seven classes for members. Open classes: Three bottles dark or medium and three sections. Entrance fee 1s. Prizes, £1, 15s., 10s.—Schedules from Hon. Sec., Norris S. Toms, 60, Fitzjohn Avenue, Barnet.

Beverley Chrysanthemum Show.—Schedules from T. T. Taylor, 137, Keldgate, Beverley.

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BUTCHER'S "National" ½-plate Camera, Aldis 7.7 lens, tripod, and accessories; would exchange for bees, etc.—G. MEEK, Morse Road, Drybrook, Glos. u.64

WANTED, Extractor, small size; cash or run honey offered.—MISS TAYLOR, Old Park House, Enfield. u.65

£7 TO CLEAR, on rail Shepherdswell.—Fourteen Section Racks, furnished, mostly drawn out, nine Porter Clearers on boards, four Travelling Section Crates, one Swarm Box, Geared Extractor, seven dozen Metal Dividers, three Honey Knives, Smoker and Sundries, four dozen 1-lb. Screw Jars.—MORGAN, Shepherdswell, Dover. u.66

FOR SALE, good Bee Hives, some almost new condition, ranging from 10-14 frames, with racks, two to accommodate six young queens each, convertible to a Wells hive; three 1921 Italian Queens, having to unite stocks, 7s. each. Three fine R.I. Red Cockerels for sale, March hatched (Measures' strain direct), 12s. 6d. each.—CROWE, Merriott, Crewkerne. u.67

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Fertile Italian Queens 8/6. Delivery by return. PEARSON & GALE, Marlborough.

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BEES.—Ten Hives, six containing bees on 10 frames, ten section racks supered. What offers? Purchaser must remove.—SINCLAIR, Hopefield, Torrance, Glasgow. u.69

QUEENS.—Two good 1921 Queens, 6s. each.—WILLIAMS, 14, Parklands, Surbiton. u.70

WANTED, work as Assistant in apiary; references exchanged. — ALLCHIN, Trevone, Padstow Cornwall. u.71

WANTED, St Bernard puppy. Price and particulars to MAURICE HERROD-HEMPSALL, Old Bedford Road, Luton. u.1

SPARE HIVES, Nucleus Boxes, Wax Extractor, Foundation, Frames, etc., for disposal.—Box No. 44, BRITISH BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. u.80

SPLENDID light Cambridgeshire Honey, 14-lb. tins, 1s. 6d. lb.; tins returnable.—SMYTH, Coldharbour, Ashwell, Herts. u.49

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GIVE YOUR BEES A CHANCE!—Incomparable Cream Candy, 7 lbs., 8s. 6d.; 10 lbs., 11s. 6d.—BOWEN, Bee Specialist, Cheltenham u.77

HONEY.—Finest Australian, two 60-lb. tins, 58s.; one 60-lb. tin, 30s.; finest West Indian "Melta" Honey, two tins, about 60 lbs., 73s.; one tin, 56 lbs., 40s.; four tins, each 7 lbs., 24s.; delivered free any railway station in Great Britain. Immediate delivery. LONDON TRADING AGENCY, 32, St. Mary Axe, E.C.3. u.83

YOUNG Fertile American Hybrid Queens, 2 dollars each. PRYOR, Breachwood Green, Welwyn. u.63

HUBER'S LETTERS.—Translations of a very interesting selection of these are now being published for the first time in the "American Bee Journal." Subscription 10s. per year.—Agent, BURTT, Manufacturer, Gloucester. u.44

WILLESDEN Canvas Waterproof Hive Roof Covers, 5s.; Hive Body Covers, 7s. 6d.; carriage paid. Wanted, Books on Bee-keeping.—SAMMAN, Kirriemuir Apiary, Stillorgan, Dublin. r.u.37

REPLACE your failing queens now with our young, vigorous Italians, 8s. 6d. each; every Queen guaranteed; subject unsold.—PEARSON & GALE, Marlborough. u.35

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BEES.—PRYOR, Breachwood Green, Welwyn. r.u.5

FEW surplus Appliances for Sale; no hives. List on application.—PEARSON & GALE, Marlborough. r.u.36

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Fertile Italian Queens. 8/6. Delivery by return. PEARSON & GALE, Marlborough.

British Bee-Keepers' Association.

The conversazione held at the Central Hall, on September 22, was one of the best held for several years. Mr. W. F. Reid presided, and in the afternoon Mr. Arnold Richards gave a lecture on "The Best Way to Spread a Knowledge of Bee-Keeping." This was followed by a discussion, during which some very good ideas were brought out. Over 100 persons sat down to a very enjoyable tea, after which various appliances were shown, explained, and discussed. Messrs. E. H. Taylor, Ltd., showed models of various patterns of hives made to scale. These are intended for the use of lecturers, and are very useful. The models shown were exceedingly well made. Mr. Dennis had one of his new feeders, "The Dennis Feeder," on view. The Chairman (Mr. Reid) explained its advantages, and then showed a number of quilts of various patterns, made by himself. These included an asbestos quilt, which could be cleansed and disinfected by putting it on the fire. A celluloid quilt, made of much stouter celluloid sheet than that usually employed for this purpose, and a quilt made from pieces of cloth from cast-off clothing. These were unpicked, cleaned, and stitched together to form very serviceable squares.

In the course of his lecture Mr. Richards said:—

At the outset let me define our subject. You will notice particularly that I am not concerned with investigation or research, but rather with the spreading of the results attained from such work.

This brings us to the point which may appear to be obvious, although it is very often overlooked, viz., that those who undertake to spread information on technical matters are under obligations to test it carefully, so that they may be quite sure that it really is knowledge, and not ignorance, that they may be spreading. In this respect I might instance a question given at the close of last term in a "General Knowledge" paper as part of an examination for my own daughter, which was, "What flower from the *pollen* of which does the bee gather the best honey?" The answer, which four hundred high school girls were told was the correct one, was "Clover," and most of these poor girls will, for the rest of time, go through life under the impression that bees do actually gather their honey from pollen.

Make certain, therefore, that it is knowledge which you are going to spread.

Now as to methods. Roughly, these are only two, written and oral, the latter being assisted by actual demonstration, and the former by illustrations.

Taking writing first of all, this is disseminated in the form of periodicals and text-books, and I think that bee-keepers are to be congratulated on the sincerity and high standard set by those engaged in editing and publishing our periodicals. They are really engaged in a most efficient manner in spreading a knowledge of the craft throughout the country, and in that respect are often in striking contrast to the sensational paragraphs which appear from time to time as special items in periodicals engaged in spreading general items of news, with very little sense of any responsibility as to checking its accuracy.

Perhaps knowledge can be spread by really good text-books better than by any other method, because what is written therein can be read over and over again, until any intelligent novice thoroughly understands it.

Many years ago, when I first took up bee-keeping, I purchased a copy of Mr. Cowan's Guide Book in the autumn, and studied it carefully throughout the winter months. I knew nothing whatsoever about bees at that time, and very little more after I had read it through for the first time, but after applying myself carefully and constantly, I soon came to realise what sort of insects bees were, and how they acted, and how they were housed, so that when the swarm which I had purchased came to hand in the month of May, I had my hive all ready to receive it, and by then I knew how the bees would act provided I threw them out in front at the time and in the manner as instructed by Mr. Cowan.

To pass on to the oral method, this is that which bee-keeper No. 1 tells prospective bee-keeper No. 2, and has the great advantage of being used in conjunction with actual demonstration. To spread knowledge by these means, where it is not possible to check over again what has been said, makes the obligation to care and accuracy of expression absolutely essential, and that is where association and co-operation becomes essential also.

This Association was founded in 1874, for the object, as is set out in Rule 2 of our constitution.

The difficulties of the diffusion of the field of operations, and the necessity for centralising the work, is the same to-day as it was then; last August I had an instance of our difficulties. I was on the borders of Sussex and Hampshire for some weeks, and went to three local shows, at each of which there were honey classes. Now, although the show of fruit, flowers, and vegetables was very good, despite the dry season, yet the honey classes were miserable, and no one there knew to whom to go to make them a success.

Looking back at the first records of this Association, one cannot fail to be impressed with the success which has been attained since those early beginnings. There is no doubt whatever, in spite of the incident I have just mentioned, that a tremendous amount of good work has been done, and is still going on, and our problem is, What can we do to complete this?

First of all, we must continue to encour age, in every possible way, oral instruction and demonstration, and the finest stimuli for ensuring that students of all ages shall work well is the feeling that their knowledge will be tested by means of examinations, and in this respect I would urge all who can possibly see their way to do so to enter and study for and resolve to pass our three examinations, and thus place themselves in the position of being recognised qualified examiners. In this capacity they can be of great value to the craft, and every day tends to make their opportunity for service greater. In this respect I would make a special appeal to our clerical members, who, by their education and training, will not only find the work easy and interesting, but they also have the special quality of being practised in imparting their knowledge to others. At the present time our Honorary Secretary does an enormous amount of work for us in every part of the country, and I hope he may be spared to continue doing so for a long time to come, but some day or other he will probably want to take life more easily, and then we shall have to do some thinking. I find that secretaries of allotment societies are organising exhibitions of vegetables, etc., all throughout the country; many of these, if not themselves interested in bees, will have members of their societies who are, and if they were circularised in those parts of the country where there was no organisation, new associations might be brought into being.

I myself have often thought that a Craft Guild might be formed, open to all who have passed any of the examinations held by the B.B.K.A., those having passed the Preliminary being Junior Craftsmen, the Intermediate being Craftsmen, and the Final being Bee-masters. This Guild could keep a register of all its members for a small annual fee, and so be the means of supplying names and addresses of bee men wherever and whenever they might be wanted for shows, or assistance at demonstrations or apiaries; a distinctive badge for each grade might also be issued. Provided the work were confined to this, it could be of great service, but I am very loth of multiplying associations.

It should never be forgotten that the craft will succeed just in proportion to the time and work put into its propaganda by every individual member of this and the County Associations throughout the countryside.

In conclusion, I would like to add that, after seeing bee-keeping for myself in many parts of Europe, and having read very considerably of it in others, I have no hesitation in saying that our standard here at home is high, and, in my opinion, equal to the best, and if we who are here to-day can look back in future years on a record of accomplishment such as has been attained by the founders of this Association, we shall have assured ourselves of a successful and happy retrospect.

There are several other practical suggestions I have among my notes for spreading a knowledge of the craft, but I have not the time at my disposal to enlarge any further at present.

A Dorset Yarn.

Visitors to the farm bring the tale of their stocks being robbed out. One of them threw flour over the robbers, and went to make a call on the next bee-keeper, and there were the bees with the flour on their little carcases going merrily into the hives with their stolen gains. "What can I do to stop it? Have reduced the entrance. Have put a sheet of glass in front, but all to no purpose." One gallant gentleman had his strongest and best stock robbed out by marauding bees. Books will give you advice, but a smouldering fire is the best thing that I have found to stop it.

I drove some bees for our parson; these were in skeps, they ran out easily into the empty skep, but the smell of honey brought all my bees over to investigate the next day. They fastened on to one skep, and cleaned it out in a very short time. They came again the next day, but then there was a smouldering fire of old trimmings off the hedges and paths, and this scared them off; it was kept up the whole day, but the bees would not face the smoke. It was the same with one of ours. It was a weak lot, and I gave it four combs of sealed stores from another hive, but in placing them in one was forgotten, and left outside the hive, while I went to take other combs away to another hive. It was soon found by the bees, and they began making merry over the comb. I put it in the hive afterwards with the others, but the bees tried their best to rob it out, and I had to build a fire at the front and back to keep off the thieves. They have not attempted it since, but these were our bees, they were stealing stores from sister stocks.

When another lot entirely goes on the war-path, stealing a neighbour's honey, it does not seem "playing the game," especially as it was, in one instance, where the new hives and appliances were bought at great cost from the owner of the robbers. I suppose it is quite in the bees' nature, though it seems cruel that the weaker should be depleted of stores by the stronger, even though the brood chamber is full to overflowing, when the stolen honey is even placed in the supers, as no other available space can be found to store it. The survival of the fittest has ordained it so; only the strongest must be sure to live through to carry on the race. The robbers' song is so distinct when robbing is going on. The note is quite distinct from that of busy working; it has a different tone entirely.

One bee-keeper who, like myself, is a horticulturist, seeing so many bees and other insects on the ivy, was given a free lecture on the subject, telling him there was nothing in the flowers of use to the bees. My friend heard the long dissertation to the very end, then he pointed to some boys who were throwing up sticks and stones at some sweet chestnut trees, and asked the would-be teacher, "What are the boys doing?" The answer came just as he wanted it. "Getting chestnuts." The gardener bee-keeper told the free teacher that the boys would not stay there day after day if they could not get any,

neither would the bees work the ivy so much if there was nothing in the flowers for them. I have only a pocket lens, but that shows a shiny matter in the newly-open flowers. Besides the bees the wasps are particularly fond of these flowers, and they must get a lot of food from them. Just now on the hedges there are a lot of male wasps, the females are very scarce, but when a female is seen the males follow her persistently. One would have expected the females would be feeding on these ivy flowers in greater numbers than the males. I do not know if the male wasp dies, as does the male bee, after mating. The queen wasps may find a place in the dry banks to hibernate for the winter soon after mating. They certainly are not on on the ivy flowers in anything like the number of males.—J. J. KETTLE.

Dronings from Huntingdonshire.

Forgive the change of title; it is more applicable to what I have to say, which will be mainly about drones. That a drone is a male bee every reader knows, but not everyone is aware of the moods and varieties of drones there are knocking around our hives in the heyday of spring and summer. I sensibly feel that my remarks will call forth criticism, and shall welcome it if it's of a constructive nature. To those who have prejudices and preconceived ideas with regard to drones I would pray them to hold their pens until the following spring, when they will be able to take observations and reason therefrom.

The bee of the masculine gender may be classified as follows:—Super-males, males, and drones. *The super-male* is a bee that is not only of great potency, but is the possessor of remarkable vitality. *The male* is a useful insect inasmuch as he is able to perform the duties for which he was made. *The drone*, while generally sexually intact, is a useless creature, and better were it if he were never born.

These terms may be confusing, but I candidly do not like calling the supermale a drone; if it must be so, I will adopt the terms Drones A., Drones B., and Drones C.

To deal with the worst first. *Drones C.* live down to their name; they are lazy, podgy, and greedy. They hinder the progress of the hive more than a little. Indolently crawling about over the combs, sometimes half choking up the hive entrance, soiling the floor board, and swallowing cells full of honey, they exasperate the workers at the best of times, and it only needs a cold night in April or May, and out these useless creatures have to go. Few have energy enough to fly to another hive, and did they do so admittance would not be granted unless, indeed, that hive was decimated by disease, or so weak in numbers as to be unable to post a sufficient number of sentinels to keep these blundering insects at bay.

Drones B. are, at any rate, alive to their purpose, and do a fair amount of flying in good weather, and are considerate enough to stay away from the hives in the heat of the day, generally lazily amusing themselves among the flowers, in one of which they will sleep until the shadows of declining day, when they return to their hives, shivering and hungry, bundle over the sentries, tuck their heads into a cell and drink their fill, and then help to keep up the night temperature of the hive, and are not above sprawling over a cell or two of brood and imparting warmth to the unborn bees.

Drones A. are the male bees par excellence. Every bee-keeper should aim at getting a suitable number of these supermales among his stocks, even though he prevents natural swarming, and, in forming nuclei, imports queens to carry on. Not only are drones A. the drones to breed from owing to their virility and activity, but they are by no means useless in the hive. They help maintain the temperature of the colony and do some part in the cleansing. I have seen them fan with their wings small heaps of debris collected on the floor board, and, moreover, they are not given to comb soiling like some of their inferior brethren. In their way they are aristocrats, in the sense that they are haughty but not arrogant, dictatorial but not overbearing. These delightful creatures are good to look upon, having an appendage denied to Drones C. Although unable to forage, and therefore a drain upon the food resources of the hives, they do more than justify their existence. I am half convinced that these super-drones control and regulate the hive to a large extent during the mid-breeding season, but on this point I must make further observations at a later date. Without doubt, however, these drones decide and arrange the swarming, and are sometimes successful in impelling a swarm without the queen. These drones have a leader, sometimes easily distinguishable, and he may, for want of a better term, be described as the king bee. During the past season I have being trying to persuade myself that this premier drone remained in the hive when a swarm went forth, and thus supplied the lack of a leader until such time as the prospective queen came into her own, but I have been convinced against my will that this is not so. A complete swarm contains not only the queen, but also the premier drone, or the king. Strange is it that the old bees should so abandon the parent stock, leaving the youngsters to take care of themselves! It may be safely assumed that the male bees which accompany a swarm are chiefly Drones A. A few Drones B. will be there, but no Drones C. If any of the latter do attempt to join the bees in flight they never get so far as the cluster. Once hived Drones A. have a heartening effect upon the bees; whether the maidens are stimulated by their beauty or anxious to "feed the brutes," I am not able to say, but I believe I am right in saying that Drones A. are wonderfully loyal to their

home. Drones B. are awful gossips, they visit many other hives, and will, if of good wing power, fly considerable distances to pay calls. I am not going so far as to say that Drones A never go visiting; they sometimes do, especially when they get wind of a swarm having left and the birth of a virgin is imminent. I have seen one of these prospective royal lovers awaiting, near the queen cell, the birth of the virgin queen into the world. So far I have only touched the fringe of this fascinating subject, a great deal more remains to be said. The great desire of every apiarist should be the production of super-drones, and I am not without hope that by close attention to the male element of the hive bee we may not succeed in so improving our strain of bee as to be in a position to compete with the apiarists of greater Europe. Of this more next week. —E. F. Hemming, Steeple Gidding.

Getting Bees into Sections.

This attempt at aiding the bees may be considered the fruits of experience and therefore taken as rules to work by in future years infallible, if it were possible to believe in bees doing things simply according to rule. A short sentence is often quoted in the columns of the Journal: "Bees do nothing invariably." Circumstances alter, and the case is altered. There is no rule without an exception. All the three statements or maxims are true, and yet not all the truth. An almost phenomenal season like the honey-gathering and bee-swarming spell we experienced during almost the whole summer has been teaching several of us new experiences. One of these appears to be the reluctance of bees to work steadily in section racks, even when weather was on the whole favourable, with a flow on or ready to yield nectar abundantly. Quite a number of bee-keepers have queried me. Why this abnormality? The strong colonies, not the very strong ones, at times, if not indeed generally, follow out the golden rule amongst bees that the standard frames of comb are all a perquisite of the queen, that there is the domain where she is supreme. Almost all the cells there are meant to be receptacles for eggs, domiciles for young larvæ, and cradles for the nymphs until they approach the imago stage. Some may serve for deposits of bee-bread, others for the blessed nectar which enables the fruit of the egg to become the living, active, busy bee, who later guides, controls, and "rules" the colony as a whole. Their keeper knowing this, in his wisdom, supplies a tempting new chamber above this brood-nest for the appropriation of the incoming nectar, which he likes to claim as his perquisite. What if the bees prefer to stay below and leave these supers severely alone?

We cannot quite *compel* bees to work our will, but all the same we can go far to circumvent theirs. Before, however, giving a set of plans all tending to encourage bees to ascend into the supers, stay there, and work there, let me briefly allude to the strongest colonies who require no extraneous aid. Such lots have in their numbers the chief incentive to fill and complete every vacant place, whether it may be on either side of the brood nest, as a nadir below, or a super above. Keep your colonies strong and their strength and numbers will give them a force and vim which wil send them up into your supers. No need to ask, "Why don't they ascend?" They *will*! Take the other extreme, but don't ask how to force them up, or why they do not go? The marvel would be if they should play the fool by trying to occupy space aloft when they have ample, unoccupied room in the brood nest. Frequently bee-keepers grumble that bees don't ascend, when it would be an utter impossibility for such very weak stocks to occupy the surplus chamber. At times, however, bees when fairly numerous, are really lazy, shy, or dull, and their owners may then be able to coax, force, tempt, or incite them to take to surplus chambers rather than allow them to start the swarming fever.

Here are some aids:—1. In every rack supplied early in the season one or two sections which were not completed the previous year may be given in the centre of the first rack supplied. These "bait" sections, containing comb, and most probably supplying the odour of honey, will tempt the bees up, and once aloft, they will stay there, while their presence will encourage other bees to follow.

2, Place a small patch of brood in a corner of the first section rack. Bees do not like to neglect brood, but instinctively scent its presence, and ascend to start building or storing. It may be advisable to withdraw the section containing the brood at an early date, substituting for it one with a full sheet of super foundation.

3, Bees may be temporarily driven into a section rack and it placed above their own hive body. The field bees may very soon desert these quarters, but if the transference has been carried out pretty late in the evening, a good many of them may stay where put; but in any case, the large percentage of young bees will remain for some time until the habit of ascending grows on them.

4, Instead of bees, place some comb aloft. It will prove an attraction to young and old, and they will soon learn the lesson that there are pleasant, comfortable quarters apart from the brood nest. The bait sections are a variation of this plan. It is a well-known fact that bees work more readily on built comb than on starters, half sheets or even whole sheets of foundation.

5, Therefore, some place on a box of shallow frames early in the season, and then when the bees take to them, if section honey is the chief desired surplus, withdraw the rack and substitute a case of sections. The habit once formed, the bees will still ascend if the colony is fairly strong and any flow on, if the weather is favourable.

6, Some dealers supply surplus chambers

fitted with a combination of the two forms of supers.

All these aids I have tried to describe are valuable at times, and beget in the bees the instinct to ascend into upper chambers. Once accustomed to walk upstairs, bees form the habit, so tempt them all you can into supers. The best advice, however, I can give is: Keep your bees strong! A colony numbering it may be 30,000 may require tempting. One numbering 40,000 will need little persuasion, one totalling 50,000 will need no inducement. It is necessary for them that rather than remain congested they should investigate every single inch of the hive interior, especially with something of a flow continuing day after day, and so they quickly take to empty super chambers. Especially is this the case when a prolific queen claims the whole of the brood area as her right and perquisite. Seize the opportunity *timely* should you wish to save all thoughts of a breaking up of the forces, if you once allow the swarming fever to secure a foothold.—D. M. Macdonald.

Bee-Keepers' Associations.

II.—Switzerland.

By L. Illingworth.

(*Continued from page* 504.)

The work of the Swiss Associations merits more attention than it receives in this country. If America has much to teach us about commercial bee-keeping on a large scale, it is to Switzerland that we must look for an example of what can be done by the well-directed efforts of Bee-keepers' Associations working under conditions very similar to our own, in what is, I believe, a rather poor honey-producing country compared with some of our more favoured districts, and where bee-keeping is almost entirely in the hands of small amateurs. No doubt we should hear more of what is being done there if it were not for the language difficulty. It is with the object of helping to bridge this gap that I am writing this article. I do not pretend to possess any first hand or personal knowledge of Swiss bee-keeping. I only once visited the country, many years ago, and, unfortunately, did not have the opportunity of coming into contact with any bee-keepers there. What I now write has been gathered from the monthly Bee Journals issued by the Swiss Associations, and from the answers to my questions, and various printed leaflets which Herr Leuenberger and Monsieur Schumacher, treasurer of the German-Swiss B.K.A. and editor of the monthly journal of the French-Swiss B.K.A. respectively, have been good enough to send me. I am greatly indebted to these two gentlemen for their kindness and courtesy in answering all the questions I addressed to them.

Here I had perhaps better remind my readers that Switzerland is about a quarter the size of England and Wales. In by far the larger portion of the country German is spoken; in that part of it which borders on France, the people speak French; and in a still smaller section adjoining Italy, Italian is the language in use.

It will not now appear surprising that, instead of one National Association, the Swiss bee-keepers have three, representing the three different languages, and each concerned with that territorial division where its own language prevails. These three Associations are quite independent, but work in friendly co-operation with each other, and on similar lines. The German-Swiss Association is not only the largest of the three, but appears also to be the oldest, and to have achieved the most important results. Attention will be mainly directed to this. The French-Swiss B.K.A. appears to be endeavouring to follow in the footsteps of its big brother. Of the Italian-Swiss Association I know nothing, being unable to read that language.

A word on organisation and finance. The German-Swiss Association numbers 16,328 members, spread over 123 affiliated Associations known as sections. The corresponding figures for the French-Swiss Association are 4,300 and 30 respectively. The sections are local Associations, and manage their own affairs, the whole arrangement being very similar to that of our B.B.K.A. and its affiliated County Associations, but with two important differences: The Central Association is not an independent body with its own subscribing members; one can only join the German-Swiss Association by becoming a member of a section. The other point is that the sections are much smaller than our County Associations, there being 123 in German-Switzerland alone. This is, no doubt, partly necessitated by the nature of the country, which is cut up into many separate portions by great mountain chains, but it has often seemed to me that our County Associations are too large. So long as bee-keeping is largely in the hands of amateurs, or those with other things to attend to besides bees, it seems unreasonable to expect people to go distances to attend meetings, except perhaps once a year, and therefore lectures, classes, etc., must be brought within reach if more than a very few are to benefit by them.

The Central Body holds an annual conference in a different place each year which all members of sections may attend. In connection with this there is a conference of delegates from the various sections (one delegate for every 100 or part of 100 members). The conference of delegates appoints the Central Executive of seven members, who are charged with carrying out any work which can better be undertaken by the Association as a whole than by the separate sections. By avoiding a *separate* Central Association, with its own members and committee, it seems to me that the Swiss system, to a very large extent, escapes from the possibility of misunderstandings and differences arising between the parent body and affiliated Associations, which have proved so prejudicial to the progress of bee-keeping in England. The annual subscription to a sec-

tion varies from 2 to 3 francs (1s. 8d. to 2s. 6d.).

The German-Swiss Central Association receives a Government grant of about 5,000 francs (say £200). It asks no affiliation fee, but makes a small charge for use of the library, etc., but its main source of revenue is the monthly journal, "Die Schweizerische Bienen-Zeitung," issued by the Central Association at the price of 6 francs (5s. per annum). Subscription to this is optional as regards individual members, but no "section" is normally permitted to become affiliated to the Association unless it has at least 40 members, 75 per cent. of whom must subscribe to the journal. In this way, and by means of advertisements in the journal, a net annual profit of about 35,000 francs (£1,400) is obtained, some 13,000 members subscribing to the journal. The French-Swiss Association adopts a different plan, requiring an affiliation fee, in return for which the members of the sections get the Association journal free, together with free use of library, free insurance, etc.

But since the utility of a society lies not in its constitution but in the practical work it accomplishes, let us pass on to the aims which it sets before it, and the methods by which it seeks to attain them.

The German-Swiss Association "aims at the advancement of bee-keeping in its practical and scientific aspects, and the protection of the material and idealistic interests of Swiss bee-keepers."

The Association seeks to attain this goal—

(a) By publishing an official organ.

(b) By instituting and supporting courses and lectures.

(c) By training class leaders and travelling teachers.

(d) By maintaining agricultural observation centres.

(e) By the establishment and use of the apicultural museum and library.

(f) By promoting and supporting exhibitions.

(g) By a general honey-agency, and by effective honey advertisements.

(h) By maintaining a department for apicultural statistics.

(i) By the seeking out and spread of approved methods of breeding and management.

(k) By providing insurance for bee-keepers against liability to third parties and epidemic bee diseases.

(l) By looking after bee-keeping interests in trade agreements, laws, and ordinances.

(m) By affiliation to the Swiss Agricultural Society and the Swiss Rural Association.

It will be necessary to say something about these different activities. I have already referred to (a), and considerations of space forbid any further remarks on it here. (e) and (f) require no explanation. (k) is concerned with something we already have in England, but the Swiss go further than we do, and also have insurance against Foul Brood. The matters covered by (l) are obviously the business of any B.K.A. worthy of the name, and (m) need not concern us, as I possess no information about the two societies mentioned.

(d) The G.-S.A. has 45 observation centres in various parts of the country. Local committees are supplied with the necessary instruments at the cost of the Central Association, in return for which they send in a monthly report on a uniform plan as to weather, honey-flow, etc. This is printed in the monthly journal. (h) The object of this is not clear. Bee-keepers all over Switzerland are invited to keep an account of their returns and to submit them for statistical purposes, apparently with a view to discovering the relative value of different districts as regards honey production, or, possibly, the profit to be derived from bee-keeping.

We now come to those matters which appear to me to be the most important, and where, it seems, we in England have the most to learn.

(b) Courses of instruction lasting from one to seven days were held in 90 different places in the year 1920, and were attended by 1,654 peop'e. They included Beginners' Courses, Advanced Courses, Courses in Queen Breeding and Wax Production, and certain other courses described by the word "Punktierkurs." I am at a loss for the meaning of this word. Perhaps some German scholar can help me? Only 31 out of the 90 courses were devoted to beginners. The cost of more than half of them was borne by the Central or Local Association; in the remaining cases the money was contributed in whole or in part by the local government or came from some outside source.

It is not stated how (c) is carried out, nor can I discover any examinations for Experts' Certificates. The advanced courses alone (referred to in the last paragraph) would provide valuable training for future class leaders and experts. I feel strongly that it is not much use to hold examinations for Experts' Certificates unless some means of acquiring the requisite knowledge is brought within the reach of possible candidates other than what they can gather from books or pick up by their own unaided experiments. It is only by providing much more tuition of a more or less advanced kind that we can ever hope to produce the large number of really competent and energetic bee enthusiasts who are so necessary if our County Associations are to do really effective work, and without whom we can never expect any general advance in the standard of bee-keeping in this country. The B.B.K.A. has done something, but it is not enough. Let the County B.K.A.'s follow suit, scrap their bee-tents, and provide classes for *bee-keepers* in every county instead.

(g) The German-Swiss Association also provides a department which aims not only at increasing the demand for honey by advertisement and articles in the Press, etc., but also runs an agency to assist members in selling their produce, thus also affording a guarantee of purity to the buyer. This seems to meet a real need. Let not the commercial bee-keeper fear his trade would suffer. A great deal of good honey is often sold at ridiculously low prices in England.

Does the commercial bee-keeper benefit by this? I once proposed that the B.B.K.A. should set up a scheme of this sort, and was promptly sat upon by a member of the council, who said it had been tried years ago and found unworkable. I can now retort that the G.-S. A. scheme works so well that the French-Swiss Association has recently determined to set up an agency on similar lines. No comment is necessary!

(h) The crowning glory of the Swiss B.K.A., however, is its splendid work in promoting the cultivation and improvement of the pure native bee. When the Association commenced its work much the same confusion existed in Switzerland as in England at the present day. Italians, Carniolans, etc., existed side by side with every variety of cross-bred, and it was difficult to know what the native "black" was really like. The early pioneers made it their business to search out the purest "natives" they could find, and with the spread of a knowledge of the best methods of queen-rearing, and the development of a plan to secure practically complete control over mating, a strain of pure native black bees has been evolved of which the Swiss may well be proud. They are convinced that it is the best bee for their country.

The G.-S. A. now controls 85 mating stations high up in the mountains beyond the height at which other bees fly, or in some isolated situation. A competent bee-keeper is in charge of each during the period when it is in use. A specially good and pure stock is selected by the Association to provide the drones for fertilising the young queens, and sent to the mating station. Members have the privilege of sending nuclei containing virgin queens (but no drones) to the mating stations. The bee-keeper in attendance cares for the nuclei, sees that they conform to the regulations as to freedom from drones or disease, and returns them to the sender as soon as the queen is mated.

In this way the Swiss have succeeded in breeding a bee that hardly swarms at all, winters well, produces more honey, and is exactly suited to the climate.

Native queens fertilised at these mating stations fetch much higher prices than imported Italians.

Mating stations appear to be of two kinds; *i.e.*, those provided by the Association, and private ones belonging to individuals (amateurs or professional queen-breeders) who, by arrangement with the Association, permit members to use them. Can we not start a mating station on one of our English or Welsh mountains? Where is the enterprising association or individual who will do this?

Even so uncompromising an advocate of Italians as Mr. Atkinson thinks it might be desirable to resuscitate the British "black," though he thinks it can only be done by the government. I disagree. The improvement of the bee is *par excellence* the work of organised bee-keeping—the B.K.A.s. If they were not so keen on persuading everybody to keep bees, and the conversion of the cottager, they would get on with their own proper work and stir up interest in queen-rearing by establishing classes and mating stations. The professional queen-breeder would not suffer. Many enthusiasts would want to buy good queens to start with; others would find they had not sufficient time for queen-rearing. The demand would increase as interest was aroused.

Fact and Fable.

Strange it is how erroneous statements made long ago, repeated time and again, restated in different terms, persist to this day defying attack by the more recent and reliable information which bee-keeping now possesses. Yet it is so.

Hardly a week passes but some contributor to the "B.B.J.," consciously or unconsciously, helps to keep one or other of these "howlers" alive, but the example in the issue of September 29 contained in the article entitled "Bee-keeping Notes," by "J.P." is so flagrant as to call for correction. The perpetuation of the fallacy—"Old veteran robbers can easily be recognised by their appearance, for they bear the marks and scars of many battles"—("J.P.'s" words) is made a serious crime by the context. The article opens with a reference to Virgil's observations, and, after proceeding to correct these in the light of present knowledge, "J.P." goes on to give up-to-date advice. That the incriminating statement quoted above appears in the latter part of the article instead of being incorporated in the first paragraph is to be regretted. The fallacy, by inference, is thus given additional confirmation.

I do not know who first stated that robber bees were bald and shiney from *frequent encounters with defenders*, but I think it dates from Langstroth. The late Chas. Dadant repeated it, and through the extensive popularity of the latter's teachings in most European countries, the "old veteran robber" idea has become world-wide. I admit it is quite a nice idea making the "good little industrious bee" more virtuous by contrast with her "wicked sister of evil habits," but unfortunately it is not true.

Every observant bee-keeper who has watched a bee on robbing intent—not a case of robbing, in which there is no possibility of observing anything in detail—knows that the stealing of the stores of others is not an occupation for any decrepit old bee. Only bees in the full possession of all their faculties can hope to gain access to the reserves of another colony. After a colony has been overcome, every bee of the robbing colony capable of flight will, no doubt, join in the game of plundering, but the initiating bees are always, without exception, foragers in their prime. Never have I seen a bee with tattered wings or shiny body nosing about a hive which was not its home. Such a bee would do so but once, as it has not the agility any more to evade the guards of a colony.

Dr. Miller, in "Fifty Years Among the Bees," has a paragraph headed, "Once a

thief," not "always a thief," which goes to prove that the bee is not a robber by nature, that robbing is casual and accidental, that it is always potential when bees are active and there is no forage, and that a robber bee will return to honest work if and when opportunity occurs.

Into an entirely different and less harmful category fall the fallacies and fables which would attribute to the bee faculties only possessed by the highest vertebrate (man). The Rev. E. F. Hemming, in the "B.B.J." of September 29, infers that bees can *tell* their companions. Such a statement, worthy enough of a teacher in a primary school, should not have been made by a contributor to the "B.B.J.," where such fables are quite out of place. Rev. Hemming knows perfectly well that what he wrote is grossly untrue; why then did he write it?

And now, Messrs. Editors, I have a point to put to you. In your editorial entitled, "Feeding Sugar to Obtain Surplus," you said: "Honey extracted from the brood combs is usually of inferior quality to that from the clean combs in supers that are . . . not contaminated by contact with the cocoons, discarded skins, and other matter from the brood . . . ." Technically, this statement is loose and misleading. If honey stored in brood combs were of inferior quality and contaminated, it would be impossible for bees to winter successfully except under the most favourable of weather conditions. You, Messrs. Editors, did not say that it is so, but the majority of the inexperienced would infer from what you said that the honey in brood combs was contaminated and of inferior quality.

The statement about the inferiority of honey obtained from brood combs dates from the days before Hruschka, when the only methods of recovering honey were (*a*) by dripping, (*b*) by pressing, and (*c*) by melting. Under these circumstances the extraction, or more correctly, the recovery, of the honey contained in combs which had previously been used by the bees for brood was responsible for the contamination and the inferiority. But the contamination and the inferior quality are not intrinsic in the honey stored in brood combs, but are the result of the methods employed for its recovery.

With modern equipment a skilled operator with a steam jacketed uncapping knife can, if he is careful not to allow any particles of the capping removed by the knife to fall on to the face of the comb nor into the cells, recover with the modern honey extractor honey from brood combs which will defy an expert judge of bee produce to distinguish from honey stored in, and extracted from, super combs at the same time. By brood combs I mean dark coloured combs which had repeatedly been used by the bees for rearing their young, but which were, when abstracted for extracting, entirely filled with sealed honey.

I hope the above notes will prevent beginners and the inexperienced from jumping to the conclusion that brood combs are unclean things unsuitable for containing honey suitable for a fastidious person's table. Any dubious bee-keeper can prove for himself the accuracy of the above statements by allowing the honey to drain out of the cells of a black brood comb. If there is any contamination he can blame himself, not the bees. The bees did not store their honey in cells which would contaminate that which they intended to remain pure, clean and wholesome.

In concluding, I wish to endorse your deprecation of the practice of extracting from the brood chamber. What a colony stores there is rightly its property, and if interference there be, it ought to be solely with the object of augmenting the stores; that is, of making good any deficiency.—H. M. STICH, Paisley.

[We have numbers of times received from our readers a consignment of from six to twenty bees, whose bodies being denuded of hair, had a black and shiny appearance. The letter accompanying them has invariably stated that these bees were persistently attempting to enter hives, and often engaged in combat. Anyone who has watched individual robbers scouting round and trying to enter a hive will know that they will be tackled many times by one or more of the defending bees, and after a longer or shorter "rough and tumble" will escape, only to make another attempt. In *The Honey Bee*, pages 16-17, it is stated "The feathery hairs easily lose their radii, which get rubbed off." That being so, is it not more likely to be a fact than a fable to say these hairs are often damaged, or broken off, in fighting? So far as our own observation goes we have frequently seen one of these shiny marauders attempting to enter hives, clinching with a defender again and again, and getting away. A *fact* that is totally at variance with Mr. Stich's statement that it would do this but once, but then he says, "Never have I seen a bee with tattered wings or shining body nosing about a hive which was not its home." Either his observation is at fault, or bees in Scotland wear a kilt when on a robbing expedition. A bee with tattered wings and shiny body may be old at the crime of robbing, if not old in, shall we say, days. There is one omission in Mr. Stich's letter. He gives no explanation of the appearance of these bees. If they are not robbers, then how does he account for them, and how have they literally "lost their hair"? Perhaps in the light of "the more recent and reliable information which bee-keeping possesses," he will tell us.

Now, as to our statement that honey from brood combs is of inferior quality to that from clean combs in the super, it is neither loose or misleading, and if read carefully and with a little thought, it is quite obvious we referred more particularly to extracting honey *for human consumption* from the brood chamber. The first few lines should make that perfectly clear, as no bee-keeper would extract honey from *supers* and feed back sugar syrup in place of it. However, we prefer honey from combs that have never been used for breeding purposes. We may be fastidious, but do not extract honey for human consumption from combs that

have been used for breeding. We do not fancy honey in which has been steeped the discarded skins of the larvæ and "other things they've left behind 'em" (our apologies to Kipling) at the base of the cells. An examination of any old brood comb will show these are not cleared out by the bees. Such a comb may, in our correspondent's opinion, be "perfectly clean," in ours, it is not. Cheshire, in *Bees and Bee-keeping*, on pages 21 and 22, vol 1, says, "The food given to the larva, especially during the latter part of the growing period, contains much pollen, the cases of the grains of which consist of a substance called cellulose, which is perfectly incapable of digestion. These cases, *with other refuse matters*, collect in quantity within the bowel, which becomes distended, since it has no opening. . . . It now throws up its stomach and bowel *with all their contents*, and without detaching them from its outer skin, which is moulted as before, but in this instance, to be pressed against the cell so as to form for it an interior lining. The dejectamenta of the bowel in this way lie between the cast skin and the cell wall." Possibly honey stored in such a cell may, like the larva, remain clean. In our opinion it does not, as it is in much closer contact with this conglomeration of impurities than the larva, and most likely for a longer time. The italics in the above quotation are ours.—EDS.]

North Cheshire Notes.

Foul Brood.—This disease seems to have come to the fore again lately. A little while ago, speaking to our local expert, I remarked that "One hardly ever hears of foul brood nowadays. I wonder if 'I.O.W.' has killed it, or only overshadowed it?" It would seem, from the columns of recent issues of the "B.B.J.," that the latter was the case. I have not seen "F.B." for a dozen years or more. I never had it in my own apiary, but have seen it rampant in others. A slight attack I have often cured quickly by the application of carbolic acid, applied directly to diseased cells with a small piece of stick. Unless one is surrounded by a veritable hotbed of this disease, and infection is brought to one's hives by robbing, I think there is little to fear from "F.B." if one takes the ordinary sanitary precautions incident to good bee-keeping.

Judging by Points.—Rather, I suppose, I should say "fixed points." This is a very general rule in horticultural and agricultural shows; why not with honey? I do not agree, Mr. Editor, with your remark that a card showing the points given is of no educational value unless the exhibitor can attend and compare cards and honey. Surely the exhibitor is not the only person to be educated. How about the hundreds of others who view the exhibits and would like to know where one particular sample was better than another?

[As colour is the only point on which one can compare one jar of honey with another without opening it, would our correspondent allow "the hundreds of others who view the exhibits and would like to know where one particular sample was better than another" to open the jars and test the honey for flavour, consistency and aroma. Such a proceeding would have one somewhat doubtful advantage. It would ease the work of those who have to pack the honey for return to the exhibitors—but what would the latter say?—EDS.]

Foreign Bees and the Incidence of Disease.—I have not been able from my own experience to prove that English bees can be resistant to "Isle of Wight," or Acarine disease, but I do know of some that have continued to exist in an infected area where imported Italians went under. Mr. Tredcroft's remark that "He knows nothing of English bees, and don't want to," is hardly the way to prove or disprove our natives. I am hoping next summer to obtain some English bees so that I may study their results and compare with other races. Perhaps my kinsman will give us a paragraph or two setting forth the advantages and disadvantages of the various races he has had under observation this summer. I think he has specimens of every known honey-bee except, perhaps, the stingless variety.

Will correspondents and others please note that it is my kinsman and not myself who is entitled to the prefix *Rev.*? I have to be content with plain *Mr.*—D. J. HEMMING, Appleton. October 20, 1921.

Bee Notes from Derbyshire.

In my last notes I was talking about the bees working silently on the Michaelmas daisies. Since then I made more observations on them. Sunday, October 9, was a swelterer, shade temperature 70 deg. Fah., and the daisies in our back garden were absolutely alive with bees, although the hives were 300 yards away. They were humming a little more than they were on the 6th, when the temperature was 75 deg. in the shade; they must have been getting something out of that four square yards of a flower bed. To test their diligence I cut the middle out of a heather section, leaving a quarter inch of honey all round, and dropped it over where the flowers were thickest and bees the busiest. Well, for quite ten minutes bees worked on daisies inside and outside that section before one came along that would look at it. The tongue of one bee on one of the flowers inside the section was within an eighth of an inch of the honey, as it went round the flower, and once there were four bees on the flowers inside section, but still they ignored the treat that I had put there for them. I do not think for one moment (and the man the daisies belonged to was watching them too) we ever saw a bee leave a flower to go to that honey. Eventually one came along that was looking out for something on the cheap: a bargain here, it thought, and it loads up quick, takes two or three wheels round in a circle, as it made for home to take the joyful news that it had

found something for nothing. In about four minutes after there was a hum round that section, but still the other bees kept working on the flowers. I expected seeing them all join in the feast, but no! I came to the conclusion that the one bee went home with its load of honey and came back with quite a different lot to what were working on the flowers.

Thursday, October 20, I had occasion to cut the inside out of another section. As the daisies in the back garden were all dead I did not think any bees would be foraging around, but just to see how long before one came along, having some daisies and yellow chrysanthemums in a vase, loaded with pollen, about 10 a.m., temperature 54 deg., I stood this vase up in the garden, and sat down to watch, after putting section over the daisies. In two minutes a yellow bee came and started loading up with pollen off the yellow flowers, and the quickness with which she did it defies description. It was not going to touch the honey, so I got a straw and put a drop on the pollen of several yellow flowers. When it had got a good load on it came to one of these drops of honey, and it loaded up inside as well. Oh, it was amusing to watch the antics of that bee to get on the wing with such a load on, but it did, and after two or three wheels round to mark the place, it made for home. In five minutes it was back with a lot of pals, but *they* did not come back for pollen: they soon cleared the honey out. Meanwhile, a Dutch bee from a neighbour's hive 400 or 500 yards in another direction, had found these few flowers, and it started to get pollen. Although these yellow bees of mine came and made a tidy hum getting the honey out of this section, the black bee still went on gathering its bee bread; perhaps it had received strict orders not to go back without any, or, does it infer, that when a bee starts out after one particular object nothing will turn it aside, and a Dutch bee at that, the most inveterate of robbers? After watching those bees on Sunday, October 9, about 4 p.m., I thought a spin round on the old bike to Wingerworth and Stubbin Court would be nice, to have a look at the autumn leaves, but if they keep on felling the trees around Wingerworth at the rate they are doing there will neither be spring flowers nor autumn leaves. There used to be more sycamore around there (large trees, too) than anywhere I know, but I went on past the big pond, alongside a long row of lime trees that were fast losing their leaves, and did not they smell lovely, but I noticed one thing about them; there were no berries on them, so they cannot have any bloom on them this year. Three years ago, when I first found this quiet retreat, they were loaded, and it *is* a quiet retreat round the back of Stubbin Court, till this quiet country lane ends up in the fields in a valley amid the woods and hills. On this warm October evening I look about, if there is aught interesting about there, when in a little spinney that had been felled down since I was there last great clumps of the small yellow musk were in bloom. I have never seen it, only in plant pots, and to find it growing in an out-of-the-way place like that seems to me marvellous. I do not know that I ever saw it grow out of doors anywhere before.

Before I close these notes, I should like to say a little about the Chesterfield Beekeepers' Association. On Saturday night, October 8, we had a meeting in the Vicar Lane Mission Room, when about twenty were present, and we had a most interesting paper read by one member on "A Trip to Galloway, and what I saw among Beekeepers there." Then another gave a lecture on "Feeding Up for Winter." It was very good; to a beginner it was invaluable, and it is the novices that we are having these little meetings for now. We are hoping to call another in two or three weeks' time, which I am sure all beginners would do well to attend and bring a pal with them. I am sure it was two hours well spent, and if it is 5s. to be a member, it is not money thrown away, for I reckon I got one good shilling's worth at that meeting.

May I say that "A Trip to Galloway" would make a good article for the "B.B.J.," if our friend could be induced to send it along.—Tom Sleight, October 25.

British Bee-Keepers' Association.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, October 28, 1921.

Mr. W. F. Reid presided, and there were also present Miss M. D. Sillar, Sir Ernest Spencer, Messrs. G. Bryden, G. J. Flashman, J. Herrod-Hempsall, G. R. Alder, G. W. Judge, C. L. M. Eales, W. H. Simms, A. Richards, F. W. Harper. Association representatives: R. R. Babbage (Middlesex), E. J. Waldock (Surrey), F. W. Frusher (Lincs.), Col. Jolly (Somerset).

The minutes of the previous meeting were read and confirmed.

Letters of regret at inability to attend were read from Messrs. T. W. Cowan, J. B. Lamb, F. W. Watts, G. S. Faunch, Major Sitwell and Rev. E. S. Bartleet.

Sir Ernest Spencer proposed, Mr. G. Bryden seconded, and it was carried unanimously that Mr. E. Walker be co-opted a member of the Council to fill the vacancy caused by the death of Mr. Pugh.

The following new members were elected:—J. Guthrie Fletcher and E. C. Hathaway.

The report of the Finance Committee was presented by Mr. Bryden, who stated that the receipts for September were £62 18s. 1d. The bank balance on October 1 was £147 14s. 2d. Payments amounting to £31 12s. 6d. were recommended.

The Report on Preliminary Examinations was presented, and it was resolved to grant certificates to Misses J. Crokaert, M. M. Farral, M. S. Martin, T. W. Johnstone, B. J. E. Morgan, Rev. W. H Richardson, Messrs. K. Young and Maurice Herrod-Hempsall.

It was resolved to ask Rev. E. J. Bartleet

to put his ideas of how his propositions could best be carried out in writing for consideration at the next meeting.

The report of the Sub-Committee appointed *re* examinations was read, and after a lengthy discussion it was resolved, on the proposition of Mr. J. Herrod-Hempsall, seconded by Mr. A. Richards, that a larger committee be appointed to re-draft the whole scheme and submit their recommendations to the Council. The committee appointed were Sir Ernest Spencer, Messrs. W. F. Reid, G. Bryden, A. Richards, W. H. Simms, G. J. Flashman, J. Herrod-Hempsall, and the Hon. Secretary.

Mr. A. Richards then withdrew, and the test lecture given by him for the Honours Certificate was considered. After some discussion it was resolved that the Certificate be granted.

Letters were read from appliance manufacturers thanking the Council for their suggestions *re* section cases, and promising to give all the assistance possible.

Correspondence was read from the Kent B.K.A. agreeing to carry out their obligations with regard to the conditions of affiliation, and it was resolved to reinstate them.

Next meeting of Council, November 17, at 23, Bedford Street, Strand, London, W.C.

INTERMEDIATE EXAMINATION.

Will those who wish to take this examination kindly note that it is held on the last Friday or Saturday in November whichever is most convenient, and that the name and address of supervisor, together with the fee of 20s. from each candidate much reach the Hon. Secretary by November 7.

Notices to Correspondents

D. H. B. H. (Hardley).—*Supplying candy.*—(1) You can put a cake of candy over the bees any time between 9 a.m. and 4 p.m. (2) If the candy is in 1-lb. cakes put on two at a time. We prefer it in a box holding from 3 to 4 lbs. Our boxes have a glass bottom made from a half-plate photographic negative, the film being cleared off. The glass is, of course, on top when the candy is over the bees, so that it is easy to see, without disturbing the bees, when a fresh supply is needed. (3) The supply should be kept up through the winter and until the end of March, irrespective of the month. (4) There must be no perforated zinc or other material under the candy. It must be borne in mind the candy is *solid*, and if there is any perforated zinc under it, the bees will only be able to use what they can reach through the perforations with their tongues, which are not very long.

G. E. M. (Lichfield).—*Commencing bee-keeping.*—We advise you to purchase the bees in the spring. Get the hives now. You can then paint and fit them up during the winter, also prepare the stands. As you have not kept bees before, better get the *six* hives, and purchase *three* stocks in the spring. You will be able to fill up the other three hives during the summer, and thus increase your stocks as you gain knowledge and experience in handling and manipulating the bees. Make haste slowly, as if you get more stocks than you have the skill to manage disaster will most likely overtake you. Another point. You will have to create a market for the goods, either honey or bees, you wish to sell, and it is as well not to increase your output much beyond the demand for it. It is always better to start at the bottom of the ladder and climb up than try to start at the top—or even half way up—and fall to the bottom.

H. R. H. (Shrewsbury).—*Moving bees in November.*—If you can leave the bees where they are until March or April, it will be better to do so. There will not be so many bees, and as probably the greater part of the stores will have been consumed by that time, the combs will not then be so heavy and the risk of their breaking down will not be so great. We published an article on packing bees for transit in the RECORD for November and December, 1916, which we can supply for 6d., post free. We have not the space to do justice to the subject in this column.

E. D. T. (Holsworthy).—*Dead bees under lime trees.*—This is not at all an unusual occurrence. The nectar appears to have a narcotic effect on the bees, which fall to the ground stupefied. The holes in their bodies are probably caused by ants or other insects piercing them to get at the honey sac.

A. H. B. (Cheltenham).—Thanks for the cake of candy; it is an excellent sample.

Suspected Disease.

A. W. (Wednesbury), H. W. (Wood Green), Miss C. (Whittington).—The bees sent were suffering from Acarine disease.

JOB (Perth).—All the bees had Acarine disease.

Bee Shows to Come.

Beverley Chrysanthemum Show.—Schedules from T. T. Taylor, 137, Keldgate, Beverley.

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TO BE SOLD, contents of Small Apiary, four strong, healthy Hives of Bees, well stored for winter, chain-geared Extractor, Honey Ripener, Combs, Frames, Supers, Lifts, Queen Excluders, Wiring Boards, Bee Escapes, Section Boxes, etc., all in good order, £15 the lot. Must be removed by purchaser.—GEORGE SARGAN, Moorlands, Ravenfield, Rotherham. u.24

FOR SALE, six Simmins' Double Conqueror Hives, with section racks in supers, in very good condition, £5 each; also 200 ½-lb. Glass Screw-top Jars for £2.—E. R. DEBENHAM, Bladen Apiaries, Dorchester. r.v.1

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FINEST Wiltshire Down Prize Honey, 7 cwt., 56-lb. tins. What offers, carriage free?—LAYCOCK, Market Lavington, Wilts. v.5

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STRICTLY BUSINESS.—Flavine—S Bee Candy, 6-lb. parcels, 9s.; Crystal White Bee Candy, 4-lb. parcels, 5s.; Flavine—S Bee Powders, one dozen, 1s.; "Let the Bees Tell You," 2s. 6d.; all post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. v.12

THE ACARINE 1921 ECLIPSE PAD.—It knocks out moths and mites. Made up to order and posted by return, 5s. each.—S. H. SMITH, 30, Maid's Causeway, Cambridge. v.13

HONEY FOR BEE FEEDING.—Australian, two tins, about 60 lbs. each, 56s.; one tin, 28s.; 7-lb. tins, 4s. 9d. each. West Indian, two tins, about 60 lbs. each, 71s.; one tin, 40s.; 7-lb. tins, 5s. 9d. each. Carriage paid 100 miles on all orders 28 lbs. and over. Cash with order.—Southwood, 95, Acton Vale, London, W. v.15

HUBER'S LETTERS.—Translations of a very interesting selection of these are now being published for the first time in the "American Bee Journal." Subscription 10s. per year.—Agent, BURTT, Manufacturer, Gloucester. u.44

HONEY.—Finest Australian, two 60-lb. tins, 58s.; one 60-lb. tin, 30s.; finest West Indian "Melta" Honey, two tins, about 60 lbs., 73s.; one tin, 56 lbs., 40s.; four tins, each 7 lbs., 24s.; delivered free any railway station in Great Britain. Immediate delivery.—LONDON TRADING AGENCY, 32, St. Mary Axe, E.C. 3. u.83

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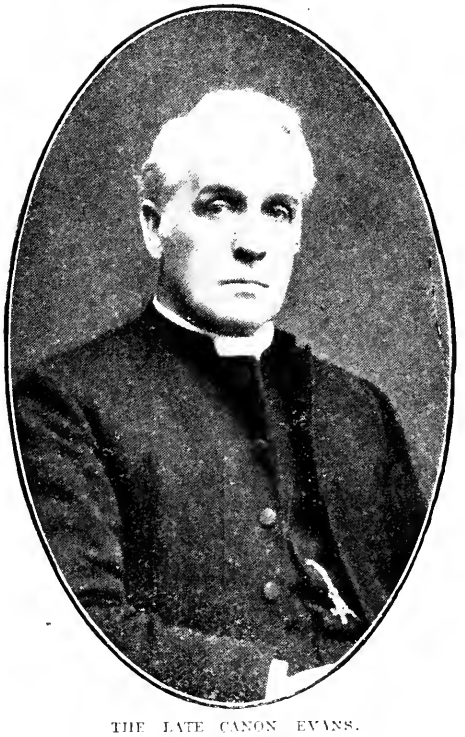
Obituary Notice.

CANON T. J. EVANS.

We regret to announce the sudden death of Canon Evans, of Knutsford, Cheshire. Canon Evans had been a bee-keeper for many years, and was one of the original members of the Cheshire Bee-keepers' Association when it severed its connection with what, up to that time had been the Lancashire and Cheshire Bee-keepers' Association. He has been Chairman of the Cheshire Association and B. B. Brooke. Mr. Franklin has kindly sent us the photograph and also a cutting from the Chester *Chronicle*, from which we take the following appreciation, as showing the esteem in which Canon Evans was held in the county:—

"It is no exaggeration to say that the inhabitants of Knutsford have experienced a sense of personal loss and bereavement by the death which occurred on Tuesday, October 25, after a tragic pulpit seizure of the vicar of the parish —the Rev. T. J. Evans—a man of striking and engaging personality, who has left his mark for good upon the diocese and its institutions. Described as it was by many of his hearers as the finest sermon he had ever delivered, the



THE LATE CANON EVANS.

since 1903, and was always the central figure in the bee-keeping industry in Cheshire. He passed what is now the preliminary examination in 1897, in company with Mr. W. Bradburn, they were the only two successful candidates, the examiners being the late Mr. W. B. Carr and Mr. J. M. Hooker. His death will be a great blow to the Cheshire Bee-keepers' Association. He was buried at Hargrave (his first living, and where he first started bee-keeping) on October 28, the Cheshire Association being represented at the funeral by Messrs. E. W. Franklin (Hon. Secretary), E. P. Hinde,

Vicar preached on Sunday morning with even more than his usual fervency and earnestness on the efficacy of prayer, basing his discourse on the 10th verse of the 6th Chapter of Daniel—'He knelt upon his knees three times a day and prayed and gave thanks before God as he did aforetime.' The address concluded, the Vicar was about to announce the last hymn when he collapsed in the pulpit and was carried unconscious into the vestry, whither Mrs. Evans (who was the first to detect by his manner in the pulpit that something was wrong) had preceded him. Thence he was removed

to the Vicarage, where he was attended by Drs. G. H. Smith and Lees, who diagnosed the case as one of seizure, possibly due to cerebral hæmorrhage. The Vicar never regained consciousness, so that his last words on earth were addressed to the congregation of a church which he himself had filled by reason of the zeal of his ministration and the beauty of his life and example.

"It was only in 1916 that Mr. Evans was invited to take charge of Knutsford in succession to the late Rev. Lewis Higson. They have been five crowded years —years in which he won admiration, love and affection by reason of his work and worth. Quoting from the New Testament, one of the humblest of his followers, who was attempting to demonstrate to our representative in what manner the Vicar was regarded, remarked: 'The common people heard him gladly.' And then this son of toil went on to show how the Vicar was not merely an eloquent preacher but a man of unflinching honesty, never afraid of telling his congregation individually or collectively in what respect they had erred, sympathetic and helpful to the poor, an indefatigable and untiring worker who visited rich and poor alike, a man without 'side' or offensive patronage, who never met a parishioner without a cheery seasonable word. 'A real John Bull' was the summing up of our informant, who wiped a furtive tear from his eyes, with the remark 'And we shall miss him—oh, so sadly.' And this was the impression conveyed on every side. It is given to few men to enshrine themselves in the hearts of a community in five or six short years, and the bereaved family who have suffered from the shock of the tragic character of their loved one's death must derive wondrous consolation from the love, affection and esteem he had won for himself.

"The rev. gentleman was the son of the late Rev. David Evans, of Llansantffraid, Merionethshire, and was in his 66th year. He was educated at Ruthin School and Jesus College, Oxford, and was ordained in 1881. For three years he was assistant master at the King's School, Chester, and it was there that he developed that knowledge of educational matters which has stood the county in good stead during the eighteen years—since the inception of the committee—that he has served upon the Cheshire Education Authority. From the King's School, Mr. Evans went as curate to Eccleston, where he was stationed from 1882 to 1887, in which year he was offered, and accepted, the living of Hargrave, where he quickly established himself as a preacher of more than average ability, and a parish priest who adorned his calling. He was at Hargrave nine years, and, amongst other parochial activities, was instrumental in building Huxley Church. During his vicariate here he married the eldest daughter of Mr. John Dolby, who was a Government auditor of Chester, a union which has been blessed with two sons and a daughter. It is interesting to note that he was one of the trustees of the vicarage and the living of Hargrave, for which he had a deep affection. In 1896 Mr. Evans was preferred to Tarvin, and he remained there until 1904, in which year he was appointed to Rock Ferry, where twelve of the most active years of his ministry were spent, and where he was responsible for the erection of a parish hall, the cost of which was defrayed by money practically all of which he himself collected. In 1916 he was appointed to Knutsford, and the following year he was made Rural Dean of the Deanery of Bowdon, in which Knutsford is situated. Mr. Evans's work in the diocese was not confined to his own particular church, wherever he might be located, but had a wider significance. He served upon the Diocesan and Finance Committee and practically every other committee of importance, while, for eighteen years he was the secretary of the Chester Clerical Society, his work gaining recognition in 1914, when he was made Honorary Canon of Chester Cathedral."

A Dorset Yarn.

There is no doubt about the great advantage it is to the bee-keeper to put up exhibits of honey in bulk. It costs a great deal to run it about with car, but the trade done after well repays the exhibitor. In these days of cars, the wealthy will go many miles to get what they want. Some have come twenty and thirty miles to get section honey after it has been exhibited, even weeks after the show. I should strongly advise bee-keepers to put up an exhibit of bee produce in bulk, in addition to the classes for competition. A big lot of honey in different size bottles and sections, in both 1-lb. and 2-lb. squares, is very attractive, especially in the many coloured show boxes now to be bought of the appliance dealers. Frames of six or more sections in a frame, with glass sides, 2-lb. sections arranged, three or more showcases with glass sides, all add to the attractiveness of the exhibit. Standard and shallow bars of comb, if in quantity, arranged one above another, add balance and weight to the whole.

We have had two cars within half an hour from the Bournemouth and Swanage areas, which is proof that it pays to exhibit honey in bulk. So many ask for heather honey. We can only say we are in the heather

districts; we cannot be absolutely sure if there is heather in the sections. That is why we sell all the early sections as soon as filled, and this season we kept some that had a delicious flavour of wild thyme and mint. This was in July. As the flowers dried up the bees went to the river-sides and ditches where the wild varieties of mint are to be found; but heather honey in deep colour has been exhibited by our East Dorset bee-keepers this season. At one Farmers' Show of honey in North Dorset, had the judges not disqualified two entries in the light honey classes, the East Dorset bee-keepers would have won seven prizes out of eight. The extracted honey from East Dorset had both density and flavour. The bell heather, *Erica cinerea*, opened very early in Dorset this year, and it must have been from this that the bees collected the nectar that gave colour and flavour. Those buyers who write for honey say they like the deep coloured sections and bottles from the heather areas of Dorset and Hants. We have had on the tea table sections that were partly light honey and partly dark. The dark may have been from the ling heather of last year, as I left many racks with sections that were only partly capped in the autumn of 1920. The bulk of these were sold in June, but there may have been some kept back. If these sections are held up to the light where there is only one window, the part that has dark honey in it can be easily seen. The buyers of these sections go away feeling that they have got what they came so far to get, and that they come again is a proof that it had the flavour they wanted.

Another reason why it pays to exhibit honey in bulk is the extra people who take up the industry. They come to one asking how to commence. It is easy to tell them that bees can be purchased at £4 and £5 per stock, a swarm from £1 to £2, and driven bees from 7s. 6d. to 15s. People of small means choose the last. As an instance of this, when I got home from Sunday morning Church service, a bee-keeper who had bought some driven bees, and had put t'em in a frame hive, had given them four 3-lb. jam bottles of syrup made with 2½ lbs. sugar to 1½ pints of water. "How shall I cover them down for the winter?" That was the query the Dorset yarner had to answer after singing the delightful and beautiful music which is used at the Communion and other services at the village church. One was brought back to the prosaic things of life by the young bee-keeper who wants to know some of the methods of bee-keeping. My advice was, no more syrup, but to place three strips across the bars, and a 1-lb. cake of candy, or two of them, on top of these strips, and the quilt to cover the whole, with warm felt and newspaper to keep warmth. My advice was not to have the cross strips more than 6 inches long, or it would interfere with the quilt covering the edges of brood box, which is necessary to keep in the warmth. He went away smiling, though he had ridden miles to see me, and had waited two hours before meeting me. He saw the necessity of belonging to the County Organisation, and an expert who lives fairly close to him would advise him for the best, as he could see the bees before putting on the candy.

When yarning on bees at Wickhampton (one of the model villages of Dorset), some bee-keepers asked me to see their bees. One of them had them this season only—two good frame hives of blacks, and one lot in a large skep, with another in a box. He would give the bees to anyone to drive them. I mentioned this to two experts in East Dorset. They went the next day and drove them (middle of October). One member of the Association had combs of heather honey which she could not extract; she bought the two lots for 15s., and they were soon at home with ample stores at West Moors.—J. J. KETTLE.

Dronings from Huntingdonshire.

It is not my province to use the columns of the B.B. JOURNAL for fabulous stories, and I am sorry that Mr. Stich should think so. Mr. Sleight must look out. I note he had something to say last week about bees telling one another where honey can be got. Mr. Stich writes from a land the inhabitants of which are proverbially slow in "seeing the point." He, however, must know that when we speak of bees telling, we do not mean that they use a language as does man, but that they are able in their own way to pass on knowledge from one to the other. The winter is drawing near, and during the long nights may I suggest to our friend of Renfrewshire that he reads, marks and learns Lubbock's "Bees, Wasps and Ants," "The Romance of Insect Life," by Edmund Selous, and "The Life of the Bee," by Maeterlinck. I can promise him some enjoyable hours, and, moreover, foretell that Mr. Stich will not be in such haste to place man in a category higher than aught else in Creation. True, man has faculties and powers denied to mammals and insects, so also have they faculties denied to us. We are lords of creation, but that does not follow that we are more civilised than every living thing, the opposite being the truth. Comparatively speaking, we have a long way to go before we have reached the order of civilisation attained by the bee. Bees do communicate one with another, and it is no fabrication to say that they can do so more quickly than can man—wonderful little things. And now to the drones.

It will be remembered that a village worthy, Old William, about a year ago promised to show me what a king bee was. When the spring came, and swarms, I found William rather reticent on the subject concerning which he had hitherto showed some vehemence. I have since discovered that the old boy is rather overawed by half-a-dozen hives I have placed where they can be seen by any passer-by. William evidently judges by outward appearances, and concludes that visible hives mean invisible knowledge. So whereas in days past, when my hives were hidden away, he would talk to and advise me on

bees, he now brings a companion with him, and in lecturing and instructing his companion he feels he is imparting knowledge to me also. With these six hives exposed to view I had to coax William not a little to show me the king bee. "Le me know next swarm ye has and I'll soon shew 'e." I did, and followed instructions, which were to take the swarm in one skep, and when all the bees were settled within to throw them out over a skep that was standing month downwards. The bees spread over the whole skep and William began peering around. "There 'e be," he shouted as he pointed to a luscious-looking drone. "Now the queen'll be quite close," and true enough she was. "Now stick 'em inside the skep and see the rest follow." They did, of course, and would have done so without the "king." However, William soon spotted the leading drone of the swarm, and therefore proved to his satisfaction that there was a king bee. I do not think it matters much in successful apiculture whether we can or cannot locate a "king bee." What does matter is that we make some effort to *produce premier drones*. Who would place a lazy or indifferent cockerel to mate a pen of first-class hens? Rather would one place a first-class bird with second-class hens, feeling assured that the progeny would be strengthened and that the pullets from the mating would mainly follow the virility of their sire. Better still, if both sire and dam are first class. Drone breeding, then, should be taken in hand, not left to chance. Whilst encouraging the development of drones, one should also take care that the virgin queens which are allowed to mate are the descendants of virile mothers, but, failing this, better ensure that the males in your apiary are drones A, even if your virgins are not of the best, than allowing things to drift to mongrelism. Of course, where one has several varieties of bees in one's apiary a difficulty will arise, but it must be remembered that a cute observer can generally tell when a virgin is due to take her flight. Strips of excluder zinc over the entrances of every hive except those you wish left free reduces the possibility of cross mating to a minimum. There are some virgins which rarely mate with drones except of their own breed—Holmewoods, for instance. Twice only have I known a Holmewood virgin to cross-mate. Whether this is antipathy on the part of the princess to drones of another breed, or due entirely to the strength of wing of the Holmewood drone I am not able to say. The only thing I can declare as practically proved is that golden Italian drones will always score in mating over their brethren of a darker colour. I should here say I have no objection to hybrid bees, by which I mean first crosses; after that, safety lies in re-queening.

Scientific drone breeding is not the difficult matter some imagine. The great thing is to select the right queen to be the mother of the drones and to learn to distinguish between drones A, drones B, and drones C. If the latter show themselves in a hive in large numbers use a drone trap. It does not always follow that the hive containing inferior drones will have indifferent workers, but if that be the case re-queen without delay. Drones C, being what they are, easily fall victims to bee diseases; drones B are in a sense worse, as they will carry infection to other hives. Drones A, although not immune, are well able to withstand the risk of contagion. I trust I have not confused those good readers who beseech me to write for novices, as I hope to return to this subject at a later date.—E. F. HEMMING, Steeple Gidding.

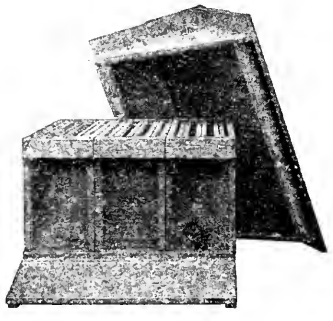
Cotswold Notes.

MAKING INCREASE.

In considering how best to secure a profitable increase of colonies, it should be borne in mind that this can only be made at the expense of surplus honey, and, generally speaking, it is not good bee-keeping practice to manage individual colonies with the view of obtaining both honey and bees during the same season.

The principles underlying the successful production of honey differ so considerably from those which occur in rearing bees rapidly that it is usually not satisfactory to combine them.

After a season when winter losses have been heavy, or extra colonies are required for other purposes, the best way is—unless increase by natural swarming is favoured—to set aside several strong colonies in the spring, and utilise them during the season



HIVE FOR THREE NUCLEI.

for making all the increase required. Any stocks will do, more or less, provided they are headed by young queens, and are likely to develop rapidly in the spring.

Those which are unsuitable for comb-honey production, or are inclined to swarm excessively, can be used for this purpose with advantage.

Unless the season is particularly favourable, colonies built up from small nuclei will rarely do more during the first season than grow to eight- or ten-comb stocks by the fall. But if they are self-supporting during the greater part of the summer, and store sufficient to winter upon, they may be considered to have done well, and been properly cared for.

In planning to establish fresh colonies, it is helpful to have the following apparatus ready beforehand:—

(1) A supply of clean drawn-out combs.

(2) Several deep bodies or supers holding ten frames.

(3) A few three- or four-comb nucleus hives, or

(4) Spare hives provided with two division boards each.

If a number of nuclei are to be formed, it is an advantage to use a hive similar to the one illustrated, in which three distinct nuclei in three separate compartments are housed under one roof. The boxes permit of being carried about the apiary—or to out apiaries—and stocked from separate colonies, being placed side by side when filled, the entrances facing opposite ways. When the middle compartment is painted dark brown, or some conspicuous colour, there is slight danger of virgin queens being lost, and no trouble occurs from the common complaint of young bees "drifting" when on their first flights.

In order to make the best of newly-formed nuclei it is a distinct advantage if a supply of fertile or virgin queens can be obtained, as their progress in building up will then be more rapid. A. H. BOWEN.

Notes from Gretna Green.

Dual Queen Colonies.—The contribution on this subject (page 501) describes fully how the system can be worked without cumbrous hives of the "Wells" type. I have obtained some six-frame brood boxes, both standard and commercial size, and am wintering several colonies in pairs, as advocated by Mr. Atkinson; all combs containing brood being placed in the lower and all honey-filled combs in the upper storey. This adjustment provides an ideal wintering condition, giving all the advantages claimed for large deep brood combs. As regards dual-queen working at the moors, my initial experiment last season was quite satisfactory, and each queen kept her five combs full of brood, so what little heather honey there was all went into the sections.

The only apparent drawback was that the incoming foragers were inclined to drift largely towards one entrance of the dual-queen hives. Next season I hope to give the method a more thorough trial, using stronger colonies and with entrances farther apart.

Do Bees Pay?—Apropos of this discussion much depends on the bee-keeper's ability to avoid loss and keep expenses within reasonable limits.

While honey continues to sell at high prices the returns may seem large, but the purchase of expensive appliances lessens profits appreciably, to say nothing regarding the risk of loss through disease.

In my own apiary last season our colonies averaged £11 1s. each for section honey actually sold, irrespective of what was given away for domestic use. The only outlay was for sections, foundation, and queens, as the usual sugar bill was avoided by setting aside one colony to store up honey for distribution over the others, according to their needs after supers were off. My hives are merely converted packing cases, costing 1s. each, and brood boxes, supers, etc., can be made at small expense, as we are able to buy cordite boxes at 27s. per ton—about 4d. apiece! These cases measure 36in. x 17in., and the ⅞in. thick, 6in. wide planed boards are just right for making supers. My experiences with "I.O.W." disease prevention and cure will be given in a following contribution.—J. M. ELLIS.

Peterborough, Oundle and District Bee-Keepers' Association.

This Show was held in the Victoria Hall, Oundle, in conjunction with the local Horticultural Society, Mr. Mackender, of Newark-on-Trent, acting as judge. The local and Association classes drew a good number of entries, the honey being of a very good quality. The War Memorial gift class drew 60 entries; 59 were staged, but one was broken in post. Seventy-five per cent. of this staged was of A1 quality, coming from all parts of the country, and the judge had a great task before awarding the prizes.

Awards in all classes are as under:—

Hospital Gift Class.—1st, Mr. W. Lonnon, Ixworth, Suffolk; 2nd, Mr. W. Barnes, Exning, Newmarket; v.h.c., Mr. C. Robinson, Grateby, Andover; h.c., Mr. Norridge, Anna Valley, Andover.

LOCAL CLASSES.

Three Bottles Run Honey.—1st, Mr. F. Whymont; 2nd, E. Mowbray; 3rd, P. Cunnington.

Three Sections.—1st, Mr. F. P. Clarke; 2nd, F. W. Whymont; 3rd, P. Cunnington.

Wax.—1st, Mr. R. A. Bennett; 2nd, F. Whymont; 3rd, P. Cunnington.

FULL MEMBERSHIP CLASSES.

Six Bottles Light Honey.—1st, Mr. F. P. Clarke; 2nd, Sergt. Hodgson; 3rd, Mr. E. Mowbray.

Six Sections.—1st, Sergt. Hodson; 2, P. Cunnington; 3rd, Rev. E. F. Hemming.

Shallow Comb.—1st and special, Mr. F. P. Whymont; 2nd, G. Seamers; 3, F. P. Clarke.

Association Gift Class (One Prize).—Mr. E. Mowbray.

Special Prize for Most Points Gained.—E. P. Whymont.—L. ANDREWS, 78a, Westgate, Peterboro' (acting Steward at Show).

Surrey Bee-Keepers' Association.

It has been arranged to hold the show next year at Guildford, from May 24 to 27. We have had to fix it at this early date owing to our holding it in connection with the Royal Counties Agricultural Society. The classes will of course be made suitable for such an early date to include this year's honey. It is hoped intending exhibitors will bear this in mind and reserve some honey for the show.

We have fixed up a certain number of lectures; nearly all being illustrated with lantern slides. The fixtures for the next few weeks are as follows:—

November 12.—Guildford Institute, Ward Street, at 3 p.m., "Methods of Increase."

November 22.—Reigate, Parish Hall, Les-

bourne Road, at 7 p.m., "Bee-keeping for Pleasure and Profit."

November 23.—Dorking, Boys' Grammar School, at 5.30 p.m.

December 3.—Tadworth, at "Millfield," the residence of Mr. Filmer, at 3 p.m.

December 15.—Redhill, Technical Schools, at 7 p.m., "Preparation of Honey, and Physiology of the Honey Bee."

All the lectures are being given by Mr. G. W. Judge.—W. E. HAMLIN, Hon. Sec., 43, Norbury Court Road, S.W.16.

Kilmarnock Honey Show.

The exhibition of honey was the finest seen this year in Scotland, and was visited by great numbers of bee-keepers. The entries totalled 121. Mr. Joseph Tinsley, Lecturer to the West of Scotland College of Agriculture, judged the honey, and attended on both days of the Show to give help and advice to the various exhibitors. Some exceptionally fine honey was on view.

The following is the list of awards :—

Light run or extracted honey (22 entries).—1, W. Shuker, High Street, Hale, near Liverpool; 2, John Birkett, Rainhill, Lancashire; 3, Matthew Kerr, 14, Kirkland Rows, Springside; v.h.c., Miss P. E. M'Kenzie, Torthorwald Road, Dumfries; h.c., Walter Trinder, Edwinstowe, Notts; com., Wm. M'Cormack, Tarff Station, Ringford.

Dark or medium coloured honey (7 entries).—1, Wm. Boyd; 2, Robert M'C. Wilson, Longbank, Kirkmahoe; 3, James Lindsay, Arnside, Westmorland.

Comb honey (9 entries).—1, George Scott, Waterton, Old Cumnock; 2, George Evans, Newport, Salop; 3, John M. Stewart, Mollance Gardens, Castle-Douglas; v.h.c., Wm. Robson, Wooler, Northumberland; h.c., Mrs. A. Cunningham, Cragston, Stewarton; com., S. Paton, Templetonburn, Kilmarnock.

Granulated honey (12 entries).—1, T. Gordon & Sons; 2, Robert Steven, 25, Irvine Road, Kilmaurs; 3, Walter Trinder; v.h.c., J. Ward, Ollerton, Newark, Notts; h.c., R. Garven, Templetonburn, Kilmarnock; com., S Paton.

Cake of beeswax (10 entries). — 1, James Lindsay; 2, Miss N. Roberts, Bwlchymaen, Dolwyddelen, N. Wales; 3, John Rowlands, Madryn Farm School, Pwllheli; v.h.c., Wm. Gilchrist, Netherall, Castle-Douglas; h.c., Walter Trinder; com., John J. Walker, 53, Main Street, Kilmaurs.

Light-coloured honey, confined to Ayrshire bee-keepers (15 entries).—1, George Scott; 2, Matthew Kerr; 3, John Smith, 29, Thomson Street, Kilmarnock; v.h.c., David Caldwell, Lealoan, Darvel; h.c., David Briggs, 11, Drumellan Street, Maybole; com., James Cochrane, 18, Dundonald Road, Kilmarnock.

Comb honey, confined to Ayrshire.—1, George Scott; 2, Miss Minnie Gemmill, Temple House, Dunlop; 3, John J. Walker.

Heather honey (7 entries).—1 (equal), George Scott and A. White, Sunnyhill, Cumnock; 3, John Alexander, Post Office House, Largs; v.h.c., Wm. Boyd; h.c., Robert M'C. Wilson; com., D. Wilson, Windmill Lane, Belper.

Mixed heather honey (7 entries).—1, Wm. Boyd; 2, David Caldwell; 3, T. Gordon & Sons; v.h.c., James Lindsay; h.c., James Cochrane; com., Miss P. E. M'Kenzie.

Extracted honey, confined to Kilmarnock and District Bee-keepers' Association (8 entries).—1, Matthew Kerr; 2, James Cochrane; 3, John Smith; v.h.c., John J. Walker; h.c., David Caldwell.

Comb honey, confined to Kilmarnock and district.—1, James Middleton, Braehead, Kilmarnock; 2, John J. Walker.

Extracted honey, exhibit to become property of Association (11 entries).—1, Miss P. E. M'Kenzie; 2, T. Gordon & Sons; 3, Wm. Gilchrist; v.h.c., John Smith; h.c., C. Robinson, Grateley, Andover, Hants.

Comb honey, exhibit to become property of Association (7 entries).—1, Geo. Scott; 2, George Evans; 3, John M. Stewart; v.h.c., Wm. Gilchrist; h.c., Wm. Robson; com., T. Gordon & Sons.—A.W.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Bees in Skeps.

[10553] In reply to Mr. Tweedie's note, page 489, on keeping bees in skeps, I am going to give you my experience with a 1920 June swarm which I wintered in a skep. The only artificial feeding it had was 1½ lbs. of Bacterol candy. But, first of all, I'm going to give your "Journal," which I have studied for some months, the credit for showing me what to do. First of all, I got a piece of board a little larger than the bottom of a rack of sections. In this I cut a hole about 6 ins. square. Then I placed the board on the skep with no queen excluder, and then put a rack of 21 sections on. The bees started working them right away. Then, leaving it alone for about 10 days, I went to place another rack under the first. Judge of my surprise when I found the first rack which I put on was full up with honey. I put the second rack under the first, and then left it a day or two, when I put a third rack under the other two, and it was not long before all three racks were full and all the sections sealed over. I still kept putting racks under and lifting the others up, which was heavy work; but fearing the weight of honey would press the skep down, I took the first three racks off. These contained 63 splendid sections, most of them 1 lb. and 3 oz. From that skep I have taken 97 sections, all of which

are saleable, and a good number of the latter, heather honey. I may add that the bees never swarmed. The bees which I have are the old English black, and have never been re-queened to my knowledge. It has been a splendid honey year up here. But I put it down to the continual fine weather and the bees working fully 16 hours every day. Also, we have not suffered from drought the same as in the South. Well, I must close, with good wishes for THE BEE JOURNAL.—J. DUFTON.

Appeal for an Old Bee-Keeper.

[10554] Would you let me make an appeal in your columns for a brother bee-keeper who needs help? He has been a bee-keeper for many years, and it has been his one and only thought. He has always been ready with advice and help to others. He helped me when I began. Now he is ill, and never likely to get up again. He is 75 years of age, and not long ago he was knocked down by a car and has never been well since, but his greatest trouble is hæmorrhoids, and he is too old for an operation. He has the old age pension, and four shillings from the parish, out of which comes 8s. 3d. per week rent, coal for cooking (no fire in his room), and everything he may want. I am doing what I can, and shall continue to do so, but as nourishing food and warmth are needed, I feel sure some others, who are better off, could help. When I went to see him he had the B.B.J. by his side; it had just come, but he could not read it. I am packing his bees down for the winter, as he was worrying about them more than about himself.

He has a wife who does for him, who also has to be fed from the same 14s.

Should any of your readers feel their hearts moved by this would they send direct to him, Thomas Jellings, 8, Stoke Green, Coventry (a letter from a comrade in the craft would much brighten his days), or to me, and I will do my best either to get things or give the cash to him. I have put things right for a day or two. Thanking you for any help you may be able to give.—SPENCER S. STOVELL, St. Dunstan's, Stoke Green, Coventry.

A Simple Remedy for Bee Stings.

[10555] I have discovered a splendid remedy for stings that you might like to mention in the B.B.J. PLANTAIN LEAVES. Have you ever heard of it? [We have not heard of this remedy.—EDS.]

I was told that a little girl was stung on her neck. The mother gathered a few *green*, juicy plantain leaves, "worked" them between her fingers and applied it to the place, and all was well No swelling whatever! I was also told that these leaves always grow close to hives, and on looking I found them actually growing around the legs of my own.

Last week I had a severe sting on the fleshy part of palm of left hand, just on the ball part of middle finger. I applied the leaves—pain disappeared at once, no swelling or inflammation, and *no itching* afterwards, as is usual. I have been stung 17 times, and used the usual remedies. Always these left inflammation and itching. —A. PARKER (Miss).

Supering Skeps.

[10556] Regarding the last paragraph of Sussex Notes in "B.B.J." of October 20, in which M. Tweedie advocates cottagers keeping bees in skeps with caps, I shall be interested to know if M. Tweedie or any of your readers have tried supering skeps with shallow frame supers instead of caps.

The standard shallow frame supers being too large for skeps, I have made several supers from boxes, with hole cut in bottom and large enough to hold five frames, not quite as long as standard, but a little deeper, each frame holding approximately 4lb. honey when full and spaced 1⅞in. apart. My best skep colony (hybrid Italians), although weak last spring have filled two such supers this season, from which I extracted nearly 40lb. of good honey, and in addition the bees filled and sealed a dozen sections in another super made in same way as the others, but with strips of wood along bottom to allow bee passage

The bees have not swarmed, and I am looking forward to an even greater measure of success in 1922, seeing that I now have drawn-out combs.—F. R. P., Birmingham.

Bee-Keepers' Associations.

[10557] Mr. L Illingworth's article raises a point which we must all recognise as vital to associations. There can be no doubt in any one's mind that our methods are antiquated, and in want of bringing up to date. One association, at any rate, believe so, and are taking steps to remedy this state of affairs. The cry of "What am I getting?" is, to my mind, one chief reason of failure. Committees feel bound to send their expert to every member, without exception, to show something is being done. This runs away with the money for very little good. The sooner members can be taught to use the expert in a proper manner the better. As it now stands, if on his annual visit a case, say, of foul brood is discovered, help and advice, no doubt, are given, and there the matter ends until next year. I contend that better value would be obtained by the expert seeing the matter through and clearing away possible infection. Co-operation certainly ought to exist in the purchase of goods. I am afraid it is another question as regards the disposal of honey.

The Middlesex Association, realising the need of an alteration, are at present engaged in trying to remedy the defects of the present system. Amongst other things they have started a sales department, by which members having bee-products or appliances for sale or desiring to purchase same are put into touch. An experimental apiary is also in hand, at which tests of bees and appliances

will be made and reports given out from time to time. Lessons in practical bee-keeping, demonstrations, and examinations will also be held here

The question of encouraging bee-keeping is also receiving attention, and while not encouraging any and everybody to take up bees, steps are being taken to induce young people to interest themselves. To this end a stock of bees is offered to the troop of boy scouts whose team gains most points in an examination to be held in May. It is hoped to include a similar inducement for the girl guides, etc., in the near future. A library for members is also contemplated; this, I am afraid, for the time being, must depend chiefly on those having literature on bee-keeping presenting same to the library.

Lastly, regarding the one short meeting yearly, in the event of sufficient support being given, it is intended to run a series of social evenings at which members and their friends may meet to exchange views, and to hear of anything new in the bee-world.

This, I think, is sufficient to prove that at least one association is trying to better existing conditions, and if all bee-keepers in the county will join up they will have very little to complain of as to the value they receive.

In conclusion, may I remark that a great deal of the apathy displayed by associations is due to the fact that members think that having paid their subscription nothing more is wanted. *Keen members make live associations.*—G. Jas. Flashman.

Fact and Fable.

[10558] Ordinarily the Editors' footnote to a contributor's communication is, I believe, to be considered final, and but for your direct invitation to me, I should not have presumed to reopen the subject. You ask me, however, to tell you how the shiny bees have lost their pubescence, if not as the result of the "rough and tumble" of trying to gain access to a strange colony, and you state that this is an omission on my part.

I did not consider it necessary to go into details when I wrote controverting "J. P.'s" statement, but, as you now ask it, I will say that those black shiny bees, which many bee-keepers mistake for potential robbers, are in reality members of the colony into whose hive they are making fruitless attempts to re-enter. The hairs which they have lost have been torn out, or, more probably, broken off short, one by one, by the mandibles of their sisters, not in the latter's attempt to prevent the shiny bee from re-entering the hive, but prior to the shiny bee beoming an outcast. What it is in the victim which incites the bees to bite off all its hairs I do not know, but it is the fact that certain bees of a colony are made shiny and hairless, and then are denied return to the hive by the guards of the colony.

Now for my evidence in support of the above statement. Perhaps the best evidence is the fact that the number of black shiny bees is at a maximum during the honey flow when robbing is not indulged in, and that there are practically none of these black shiny bees on the wing at seasons when robbing can be started up on the slightest provocation. The rest of my evidence is entirely observational experience of a kind which is very difficult to describe. Dr. Miller said: "I think I know the difference between robber bees and bees playing, but I do not think I know how to tell others how to distinguish between the two." The same remark applies to the shiny black bees and the real marauders. Careful observation will soon reward the intelligent bee-keeper that the actions of these shiny bees and those of real robbers are quite different, as also is the attitude of the guards of the colony towards these two types of bees. I feel that a detailed account of my observations is necessary to the case in point, but to give it would occupy too much of your valuable space. I will content myself by asking all those who doubt the accuracy of my statements and who are sufficiently interested to know whether I am right or wrong, to spend an hour or two observing the behaviour of bees at the entrance to their hives.

In conclusion, permit me to state in regard to honey in brood combs, that your example of the cleanliness of the bee larva is an admirable piece of evidence in support of my contention. The bee larva during its early life makes use of the surface tension of the liquid upon which it subsists in order to prevent itself from falling down into the angle formed by the two lower walls of the cell under the action of gravity. This premises a very thin film of food between the larva and the bottom of the cell, which, as "Cheshire" describes, is the dumping ground for all the unappetising matter referred to in your quotation from "Bees and Bee-keeping." Moreover, there are very good grounds for supposing that quite an appreciable quantity of its food is ingested by the larva through its skin by what is technically known by the name of osmosis. Very well, if you grant this, you cannot but admit that the bee could not rear successive broods of healthy young if (*a*) the cells were not rendered chemically clean, and (*b*) the surfaces were not rendered impermeable to the liquid food stuffs to prevent contamination with the dejectamenta remaining from previous broods.

You say: "We do not fancy honey in which has been steeped the discarded skins of the larvæ." Neither do I. But my point is that the honey in brood combs is not so steeped. How the bees effect (*a*) and (*b*) referred to above I do not know, but I believe that a varnish, probably composed mainly of propolis, is applied by the bees to the interior surfaces of the cells. You have no doubt marvelled at the highly polished condition of the surfaces of cells containing eggs in old combs. Is it reasonable to assume that such an optical polish could be obtained without the application of something to the surface presented by the bottom of a cell from which a bee had hatched? Apart from this, is it possible to conceive a succession of

healthy broods of bees fed on honey which had been steeped in the skins, cocoons and excreta of previous broods? I do not think so.—H. M. STICH, Paisley.

[Our readers can now make their own observations, and think these matters out for themselves. So far as we are concerned, Mr. Stich has not converted us to his view. Hairless bees may be found on the combs in numbers of colonies, living in amity with the other bees, which would not be the case if they did not belong there. However, it is a subject that merits more observation, and this may modify the opinion of both our correspondent and ourselves.

The larvæ may take no harm from their food being steeped in the mixture at the base of the cells, but that the bees do not clean and polish or varnish the cells so thoroughly as Mr. Stich thinks is shown by the fact that larvæ occupying cells that have contained foul brood will themselves become affected. This, we think, would not occur if the organism causing that disease was covered by or embedded in a coating of propolis. The last sentence in Mr. Stich's letter is worth pondering over. Is it not possible for a lurking germ of disease from a previous occupant of a cell that has long been used for breeding eventually to find in one of the later occupants a chance to grow and multiply? It is an argument in favour of the frequent renewal of the brood combs.—EDS.]

Let the Bees Decide.

[10559] *Re* "Jottings from Ashdown Forest," B.B.J., October 27—I feel highly interested in Mr. Ridley's reference to the article and illustration in a (if not the) leading daily. It reminded me that I had that little article with illustration put into my hands by a friend who knew I was interested in bees, etc. When I read the article, I said at once, The person who wrote it never had much to do with driving bees from skeps or boxes or that he never took particular notice which way the bees almost invariably build their combs. I have kept bees in bar-frame hives 24 years, and in most years I have driven bees from skeps, buckets, and boxes in the surrounding district. My experience is that bees build their combs so that they have their streets leading from the front to the back, thus having all the advantage that no matter on whichever comb or on whatever part of comb they are, they can all advance towards the front or retire towards the back without going under or around combs. Reasonable, is it not?

When the above-mentioned article appeared I had several stocks in the district to drive, and I thought I would take particular notice which way the combs were built, and almost without exception they were built from entrance to back. In some they may be a little askew, but I cannot remember finding one stock with combs built at right-angles to entrance. There was one box in particular, about 18 inches long, 12 inches wide, and 9 inches deep, entrance at one end, combs from front to back, box full, nearly every comb straight, and good enough to tie into frames. It would be interesting to hear if any other bee drivers have observed this.

Give me a movable brood chamber, with outside case, air space all round, single boards as much as possible, then any infectious disease can be dealt with on all sides of boards; no lurking places between fixed brood-chamber air spaces for damp or disease. Speaking of strips on top of combs for winter I do not consider them good enough. Take a piece of $\frac{1}{8}$- or $\frac{1}{4}$-inch galv. rod 30 inches long, bend into the form of a **W** with rounded points, and about 7 inches or 8 inches across each way, bend this into the form of an arch with a $\frac{3}{4}$-inch rise, and it provides a warm top chamber. I cover it with Brussels carpet, right side up on top of wire and frames—no calico, oilcloth, or ticking. Put rugs on top of carpet, and go to bed snug and warm yourself the coldest night in winter, and feel satisfied that your bees are doing likewise. Mine have been wintered in this way for about 14 years, with a good wake up in the spring.—J. VINCENT, Rock, Membury, Axminster, Devon.

October 28, 1921.

Seasonable Hints.

[10560] Here again we have valuable information by our Editors. One important fact is the bits of wood over and across the frames. It is most essential. Queen and bees can move over combs, especially in the very early spring, so the queen is not confined to one comb. May I mention the value of the "Rymer Board" laid across the frames, and bees do not stick down an unbleached calico quilt laid over it, with others on top, so the air can percolate through, which is the acme of health during their confinement.—CYRIL TREDCROFT.

Does Bee-Keeping Pay?

[10561] *Re* your article in this week's "B.B.J.," "Does Bee-keeping Pay?" my experience of four years is that it does pay, but not enough to build a house. In 1918 my bees cost £4 for one stock, they just paid for themselves that year; 1919, I was £8 to the good; 1920, with beehives, etc., I bought, I was £2 out of pocket; 1921 has been my best year, and I may say I am £20 to the good. I started this spring with eight stocks; sold nine swarms at 30s. per swarm; I am wintering nine stocks. My bees are hybrid Italians, and I find for swarming they are the outside limit. If you think this will interest any of your readers, I should be pleased for you to use same.—N. BANKS.

[10562] In response to your inquiry I send a somewhat rough balance-sheet of my year's working up to the present time. As I am not expert at book-keeping, I may not have made out the account quite in the orthodox manner, but I think it is simple and will be easily understood. It is a little different to those already published in one particular. I have debited the account with cost of time spent in labour: this is only fair, as "time is money." The honey sold was in customers'

own containers, and what is left has been valued at wholesale prices. The colonies of bees have been doubled in number, but one is not so strong as the other three, and all are well stored with bees and honey and in good shape for wintering successfully. The extra 5s. each put on the present value of hives is more than justified, as I consider the renovating and painting has added 10s. to their value. As near as I can make it out the net gain on, shall we say, the trading account, is at the rate of $4\frac{7}{8}$ per cent., and the value of the stock has been increased by nearly 45 per cent. My figures may not be quite accurate, but at any rate, I for one am quite certain that bee-keeping *does* pay.—SATISFIED.

BALANCE-SHEET.

	£ s. d.	£ s. d.
Value of stock from 1920 :		
Six hives and fittings at 40s. ...	12 0 0	
One stock of bees ...	3 10 0	
Extractors	4 0 0	
Sundry appliances	1 10 0	
		21 0 0
Re-covering six hive roofs with calico and painting six hives two coats at 8s. ...		2 8 0
To bought one nucleus ...		2 2 0
To sugar for feeding		9 4
To comb foundation and postage		18 0
To labour—12 hours at 2s. ...		1 4 0
		28 1 4
By balance		11 14 8
		39 16 0

	£ s. d.	£ s. d.
Sold honey, 16 lbs. at 2s. ...		1 12 0
Honey on hand, 104 lbs. at 1s. 6d.		7 16 0
Value of stock :—	£ s. d.	
Six hives and fittings at 45s. ...	13 10 0	
Three stocks bees at 70s.	10 10 0	
One ditto at 50s.	2 10 0	
Various appliances	5 10 0	
	32 0 0	
Less depreciation at 5 per cent. ...	1 12 0	30 8 0
		39 16 0

[10563] Would one be pardoned in presenting an adverse balance-sheet, not to be taken as a precedent or a deterrent to would-be bee-keepers? For I feel sure had not shall we say, *ill luck* or "*foul luck*" in the way of foul brood and loss of swarms come my way I should have been able to say it did pay, and even now I do not consider the position irretrievable, for to have a few sections for my own consumption and to know all was well with the hives would be some recompense, and I feel such will be the case if I persist.

Spent 1920: Bees, 25s.; appliances, 18s. 6d.; sugar, 23s. 9½d.

Spent 1921: Bees, £2; appliances, £6 16s. 9½d.; sugar, 25s. 7d.; honey, 18s. 10d.; sundries, 26s. 2d.

Total expenditure, £15 14s. 8d.; total returns, nil.

Foul brood broke out in May, 1921, necessitating drastic treatment; four swarms decamped.

Present position: Six hives in good condition and fair amount of appliances; four stocks of bees, two of which I notice to-day, being fine, have crawlers, and samples have been sent to Dr. Rennie. This does not look cheerful, but experience has to be bought and paid for by all novices, and I will not say I have made no mistakes, but I have been particularly clean and careful.

Anyhow, may 1922 be a good year for all.—A. L. LANGLEY.

Name of Alkali in Poison of Wasp Sting.

[9,932.]—A short time ago I saw in the "Yorkshire Post" a letter stating that the poison contained in a wasp's sting is an alkali. Will you or any correspondent kindly let me know, through the "B.B.J.," what is the name of the alkali?—H. T. HUTCHINSON.

REPLY.—We are sorry we are unable to give the information. Can any of our readers oblige?

Making Mead.

[9933] In connection with the brewing of mead, would you kindly furnish replies to the following questions:—

(1) What should be the sp. gr. of the aqueous honey solution?

(2) Should the fermentation be allowed to proceed until the sugar is all reduced?

(3) If not, when should the fermentation be stopped, and how?

(4) If the liquor is not to be pasteurised, is there not danger of bottles bursting or of the acetic acid ferment getting a hold after bottling?—H. H. S.

REPLY.—The reply to the first three queries will depend on the quality of mead it is desired to make. (1) For a light mead, made with 2 lbs. honey to a gallon of water, the specific gravity should be 1.055; 3 lbs. of honey to the gallon, sp. gr. 1.082; 4 lbs. of honey to the gallon, sp. gr. 1.100. (2) The liquor is usually allowed to stand until fermentation has ceased. (3) If a sweeter mead is required, fermentation may be stopped when the desired stage has been reached by adding to a small portion of the liquor ½ oz. of sulphite of lime for each gallon, mixing thoroughly and returning. (4) Very little.

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

W. J. F. (Fife).—*Virgin queens cast out in November.*—Possibly owing to the warm weather the bees prepared for swarming—a swarm was reported on October 27 in South Wales—but the cold weather caused them to abandon their preparations and kill off the virgins. The slight disturbance of putting on winter passages would not be likely to cause the bees to ball the queen.

R. I. H. (Glasgow).—*Packing for winter.*—There is not the slightest fear that any amount of packing on top of the quilts will suffocate the bees, provided the entrance is open. For a strong colony the width of this should now be about 5 in., and must be kept clear all the winter.

H. P. (Snodland).—*Disinfecting super combs.*—If these are clean and free from honey we should say they will be quite safe to use again if thoroughly disinfected.

F. C. S. (Eaton).—*Bees not taking syrup.*—(1) At times a weak colony will not go up into a rapid feeder, especially if the nights are chilly. Medicating the syrup may sometimes cause the bees to refuse it, but we have never had any difficulty from that cause. (2) If the syrup is well boiled and stored in a glass or stoneware vessel, it will keep until spring.

C. L. M. E. (Devon).—A fair average amount of honey extracted from a super of eight combs spaced with wide ends is from 28 lbs. to 30 lbs. It depends on the density of the honey, a thick sample not extracting so clean as a thinner one.

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WANTED, four W.B.C. double-walled Hives, guaranteed free from disease.—MITCHINES, Coomb Hill, Meopham, Kent. v.18

FINEST Light Lincolnshire Honey, granulated, price 1s. 6d. lb. in 14-, 28-, 56-lb. tins, carriage paid; tins free; sample 4d.—CHARLES CUBLEY, Gedney, Holbeach, Lincolnshire. v.19

FOR SALE, 2 cwt. good Light Honey in 56-lb. tins, price £4 4s. per cwt. f.o.r.; sample 9d.—ASHWORTH, Pound Street, Warminster. v.20

RICH CLOVER MIXTURE, Amber English Honey, 1s. 4d. lb., 28- and 56-lb. tins.—HOUSTON, Ellen Villa, Sidcup. v.21

THREE W.B.C. HIVES, Frames, Setcions, Foundation, Gloves, Veil, Smoker, Feeder, Clearing Board, Wire Embedder, etc.; perfect condition; £5.—CARROW, Manorbier, Pembrokeshire. v.22

DISABLED ex-Service Man and Wife wanted; man, half-time garden, bees, poultry, carpentering, prospects; wife, Working Housekeeper; one lady; Norfolk.—Full particulars to E. M. C., Boyne Hill, Chapelthorpe, Wakefield. v.23

TWO COWAN EXTRACTORS, almost new, Meadows' make; best offer secures either.—COOMBER, 64, Ronald Park Avenue, Westcliff, Essex. v.24

PURE LINCOLNSHIRE HONEY, 28-lb. tins, £3 per cwt., carriage paid; sample 4d.—THOMPSON, Helpringham, Sleaford. v.25

HONEY suitable for manufacturing purposes, £2 per cwt.—MRS. YARRAD, The Laurels, Swaton, Billingborough. v.26

BEES AND HONEY.—For Sale, 10 dozen well-filled Sections, 5 dozen 1-lb. bottles Extracted Honey, 56 lbs. in 28-lb. tins, six strong, healthy Stocks on 10 frames, and Hives. Offers wanted.—A. FRASER, Lower Newlands, Teynham, Kent. v.27

HONEY FOR SALE.—Finest Light Cambridgeshire, 3½ cwt., in 28-lb. tins, £8 per cwt., carriage paid (if packed in cases extra, returnable).—C. FULLER, Tekleton, Great Chesterfield, Essex. v.28

WANTED, Eastman Kodak No. 3; cash or exchange.—Particulars, BOWEN, Coronation Road, Cheltenham. v.31

NOW is the time to plant Willow Herb for 1922 blossom, 12, 2s. 6d.—BOWEN, Apiarist, Cheltenham. v.32

FINE ENGLISH HONEY in 28- and 14-lb. tins, 1s. 5d. per lb.—BURGESS, Newport Pagnell, Bucks. v.37

FOR SALE, pure Clover and Lime Honey from the Chilterns, £8 10s. per cwt., carriage forward, in 14- and 7-lb. tins.—G. GARDINER, Whiteleaf, Princes Risboro'. v.38

2½ CWT. finest Suffolk Light Honey, £8 per cwt. tins, carriage free; sample 6d.—SPRATT, Grove Farm, Occold, Eye, Suffolk. v.39

PURE excellent Somerset Honey, 1s. 6d. per lb.—WYATT, Bishopswood, Chard. r.v.40

WANTED, St. Bernard Puppy.—Price and particulars to MAURICE HERROD-HEMPSALL, Old Bedford Road, Luton. u.1

SPLENDID light Cambridgeshire Honey, 14-lb. tins, 1s. 6d. lb.; tins returnable.—SMYTH, Coldharbour, Ashwell, Herts. u.49

TO BE SOLD, contents of Small Apiary, four strong, healthy Hives of Bees, well stored for winter, chain-geared Extractor, Honey Ripener, Combs, Frames, Supers, Lifts, Queen Excluders, Wiring Boards, Bee Escapes, Section Boxes, etc., all in good order, £15 the lot. Must be removed by purchaser.—GEORGE SARGAN, Moorlands, Ravenfield, Rotherham. u.24

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FOR SALE, six Simmins' Double Conqueror Hives, with section racks in supers, in very good condition, £5 each; also 200 ½-lb. Glass Screw-top Jars for £2.—E. R. DEBENHAM, Bladen Apiaries, Dorchester. r.v.1

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CEILING RACK for drying and airing clothes; simple to fix, and very useful, especially during winter weather; price, complete, with instructions for fixing, 6 ft., 5s. 9d.; 7 ft., 6s. 3d.; 8 ft., 8s.; carriage paid.—BURTT, Manufacturer, Gloucester. v.33

STRONG, healthy Stocks Dutch Bees in skeps for Sale, delivery March, April, May, 1922.—DAVIDSON, Forest Road, Burton-on-Trent. v.34

ANNUAL SWEET CLOVER (HUBAM) is discussed and illustrated in a fine article to the Autumn Number (October) of "THE BEE WORLD", by E. R. Root. Readers of the "JOURNAL" are well advised to procure this splendid number, which appears in 36 pages, profusely illustrated, and brimful of valuable contributions from distinguished bee-keepers. A limited number of back copies of the current volume are also available. Price 10½d. per copy, post free, from B.B.J. Office. Those who wish to subscribe should join the APIS CLUB (fee 10s. 6d. per annum, *commencing month of joining*), for they would become entitled to copies of "THE BEE WORLD" as published, free of charge. There are several other advantages in joining the CLUB, the membership of which is now in its second thousand, and is steadily increasing. There is a greater advantage in starting now and obtaining the back numbers of "THE BEE WORLD" than waiting till January. v.35

A GREAT INVESTMENT — ADMINSON'S SEMI-COMB.—For Adminson's *Semi-comb* and Appliances apply to LEE'S BEE HIVE WORKS, Uxbridge. Prompt attention. v.36

FIGHTING "I.O.W." DISEASE.—No wise bee-keeper should miss studying the special articles by Dr. John Rennie which are appearing regularly in "THE BEE WORLD." Secure your copy while available. v.41

HONEY, 6d. PER LB.—Finest Australian, 60-lb. tins, 30s.; 9-lb. tin, 7s. 6d; sample free; all carriage paid.—HERBERT & CO., 28, Southwark Street, London. Established 50 years. r.u.16

BOOK NOW.—Choicest Carniolan Queens for 1922.—PEARSON & GALE, Marlborough. r.v.16

THE ACARINE 1921 ECLIPSE PAD.—It knocks out moths and mites. Made up to order and posted by return, 5s. each.—S. H. SMITH, 30, Maid's Causeway, Cambridge. v.13

FINEST ENGLISH HONEY, in 28-lb. cans, 1s. 6d. per lb.; cans and carriage free.—PEARSON & GALE, Marlborough. r.14

HONEY FOR BEE FEEDING.—Australian, two tins, about 60 lbs. each, 65s.; one tin, 33s.; 7-lb. tins, 4s. 9d. each. West Indian, two tins, about 60 lbs. each, 80s.; one tin, 43s.; 7-lb. tins, 5s. 9d. each. Carriage paid 100 miles on all orders 28 lbs. and over. Cash with order.—Southwood, 95, Acton Vale, London, W. v.15

STRICTLY BUSINESS.—Flavine—S Bee Candy, 6-lb. parcels, 9s.; Crystal White Bee Candy, 4-lb. parcels, 5s.; Flavine—S Bee Powders, one dozen, 1s.; "Let the Bees Tell You," 2s. 6d.; all post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. v.12

YOU wouldn't "swop" a Masheath for any two other hives. r.t.62

MASHEATH (REGD.) HIVE, the hive of the day. Direct only from the originator and maker. Price List.—ATKINSON, Fakenham. r.t.63

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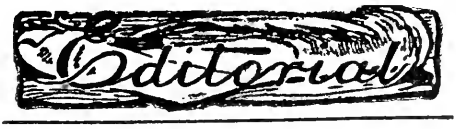


Review.

Bees for Pleasure and Profit, by G. Gordon Samson. This is the fifth edition of the book, revised and enlarged to 134 pages. It is intended for beginners, and contains a number of illustrations. It also has some features not usually found in other text-books, including a chapter on the almost-forgotten Wells' system, and hints on bee-keeping in hot countries. Mr. Samson would have done better to have entirely re-written some chapters instead of revising portions of them. The result is not good—too much like patching old garments with pieces of new cloth. We notice a footnote advises the reader to send to Mr. Wells for his pamphlet, but Mr. Wells died in the early part of the year 1909! Many of the illustrations also leave much to be desired. Fig. 1, of the queen, drone and worker; Fig. 2, a section of comb containing larvæ in various stages, and Fig. 4, comb stored with honey and brood, especially, are very crude drawings, for which in these days of photography and half-tone blocks there is no excuse. Copies of the book may be obtained from the publishers, Messrs. Crosby Lockwood & Son, 7, Stationers' Hall Court, Ludgate Hill, E.C.2, or from our office. The price is 3s. 6d.; postage 4d.

Jottings from Huntingdonshire

To write for beginners and novices is to write over again what has been written a hundred times before with far abler pens than mine. Since, however, people keep writing to me to write for beginners, and others have hinted in the columns of the "B.B.J." that I should write for novices, one naturally concludes that THE BRITISH BEE JOURNAL is constantly getting new readers, who, knowing little about bee-keeping, are anxious to learn. Let me first remark that what I may have to say will not wholly command the approval of the experts in bee craft, and as time goes on even those who are now novices will themselves develop "views of their own."

Bees cannot be kept without a hive, so get a hive and get it new. I never counsel beginners to commence with skeps—a skep is necessary for taking swarms—but bee-keeping in skeps is a thing for expert knowledge. There is a lot to be learned about skep-reared queens and drones, and of a nature that to a novice would be confusing, an observatory skep is a fascination. A hive then should be purchased, and as I have said, new. Second-hand hives may be infected, so do not commence your bee-keeping by purchasing old hives however cheap. If money is a consideration make a hive yourself. Construct it of wood, but it does not matter if that wood is covered with the name of Tate, or advertises somebody's soap or golden syrup; paint is cheap, and the outside show can soon be obliterated, any lettering within will not trouble the bees, their language is of a shorthand variety of deaf and dumb alphabet. If you must make your hives make them square. I will explain why presently, see that they be strong, weatherproof and sound, but remember, however handy you are with tools, however carefully you put the several parts together, you will not succeed in getting a hive as perfectly made as those turned out by reliable bee appliance makers. As for the size, if you know of a friend who has a hive standing near enough for you to take measurements, it will be an advantage. Personally, I think the best hive for a novice is one 18½ inches square, and the depth of the brood-box case—notice I say brood-box case—should be not less than 12 inches; lifts can be made as required. Do not trouble about slides for the entrance, chisel out a space half an inch deep and nine inches wide, and get a Swiss hive entrance to fix over it, and you will have an ideal gateway for your bees. I may say in passing that I wish all hives were so made that a Swiss entrance could be fixed to the opening.

Now for the brood box. A standard frame is 14 inches by 8½, outside measurements, these should certainly be bought, and if you can manage to run to the extra expense of having them complete with wired-in sheets of brood foundation all the better. It will be seen, then, that the inside measurements of the brood box will need to be 15¼ inches each way. You can thus fix in the frames at right angles to or parallel with the entrance, the latter for preference, but if your first bees are native English the former may be adopted. Such a hive here described will not tally with many that you will see about, and the measurements will not agree to those of a W.B.C. standard hive, but never mind, manage with a simple, inexpensive one first. After a season of bee-keeping you will be better able to test your feelings as to whether you are fired with greater enthusiasm for the craft, or whether your love of bees is but a passing phase. If you decide to discontinue bee-keeping your loss will not be great, and if, on the other hand, you determine to go on you will not be bemoaning the time it takes to recover the initial cost. The bee-keeping industry suffers too much from those people who, often misled by some much-advertised "take" from one hive, rush headlong into the craft, spending large sums of money in purchasing the best of everything, including a stock of bees, happen on a bad season, or get disease within the hive, lose their interest, and with decided chagrin lose no opportunity to decry the profitable possibilities of apiculture.

Your hive is ready for bees. Begin with a swarm. Bees of a swarm are usually good-tempered, to handle them enables the timid to gain confidence. If you buy a nucleus, or a stock, it means transference, and this demands nerve. Although there are people

in the world who will tell you bees have no means of communication, you can take it from me that if a decided timidity on the part of a manipulator is observed by no more than a dozen bees, in less time than it takes to tell, half the colony will know of it, and it does not improve the temper of the bees if you drop a comb with a yell and dash at a double to take cover. A swarm is generally composed of bees who have arrived at days of discretion, and are not, therefore, quite so "peppery" as their younger sisters whom they have left behind to carry on the parent stock until their nieces arrive. Introducing swarms is simple enough, yet nine people out of a dozen seem unaware that there is a right and wrong way of introduction. I have watched with some amazement beekeepers of experience introducing swarms in the clumsiest of ways, *i.e.*, throwing the whole lot of bees up against the hive mouth. Not only does this choke the entrance, but destroys the possibility of seeing the queen go in. Before introducing the swarm prop up the front of the brood box and the brood-box case, place a board reaching from the ground to the entrance, if you can spare a cloth to lay on the ground and another to cover the board all the better. This done, take the swarm, which will presumably arrive in a skep or a swarm box, shake out on the board some nine inches from the entrance. A puff of smoke will set it on the move, and the whole company of bees will start marching up to their new home. Watch carefully for the queen, if you see her enter rejoice, if you do not you will be in a state of anxiety until you see brood within the hive. When all the bees have entered drop down the brood box, and with a quilt over the frames leave them to settle down for at least a day. It is, of course, understood that the best time to introduce a swarm is in the evening. Space forbids my saying more this time. I hope to return to the matter next week. — E. F. Hemming, Steeple Gidding.

The Late Mr. F. W. L. Sladen.

At the time of writing our obituary notice we did not know exactly how Mr. Sladen met his death. The following particulars may therefore be of interest. They are given in the *American Bee Journal* for November by Mr. C. B. Gooderham: "On September 10 Mr. F. W. L. Sladen, Canada's Dominion apiarist, died of heart failure while bathing at Duck Island, in Lake Ontario. Mr. Sladen had been suffering from heart trouble for several years, and only three years ago was ordered by his physician to take a long rest. It appears that Mr. Sladen, who could not swim, had been in the habit of bathing in shallow water at the edge of the lake after finishing his work with the bees, and on Saturday went into the water as usual, when he was suddenly stricken with heart failure. Mr. Sladen was not missed from his tent until the next morning, when a search was made by Mr. Thomas, the lighthouse keeper. Mr. Sladen's clothes were found on the shore, and the body was found in the water, about seventy feet from shore."

Bee Disease.

Up to a few months ago the Ministry of Agriculture had arrangements in operation which made it practicable for bees affected with disease of one sort or another to be examined by an expert, free of cost. The object was to enable bee-keepers to become acquainted with the nature of the disease so that suitable and proper measures against it might be taken. The Ministry wish now to announce, as many bee-keepers appear still to be unaware of the fact, that the arrangements are no longer in existence, that they cannot at the present time resume the examination of diseased bees. They hope, however, to be able to do so in the spring of next year. A further announcement will be issued as soon as the arrangements have been completed.

Cotswold Notes.

MAKING INCREASE.

(*Continued from page* 525.)

As soon as each colony becomes crowded upon its ten frames of comb a super of deep comb is given, without an excluder.

During settled, warm weather work in this chamber will soon be commenced, and the queen will rapidly fill the central combs with eggs.

As soon as the super contains some sealed brood, lift it aside and exchange all the completely sealed combs of brood from the lower chamber with the unsealed and partly-filled combs in the upper one, so that the upper chamber contains brood in all ten combs.

Make sure that the queen is below, and place a queen excluder between.

Thus the stock can be left for ten to twelve days, during which time every particle of brood in the upper chamber will be sealed over, and the combs will be found to contain a certain amount of freshly-gathered honey, making them in an ideal condition for the formation of nuclei.

Three 3-comb nuclei could be formed from each set of brood, but it is better at this stage to make only two, dividing the bees on the remaining four combs equally between them to make them in a crowded condition. Allowing for the field bees which will return to their old stand, there will still be plenty to care for the brood. The entrances of the nuclei should be stuffed with grass, and the quilts laid evenly over the frames to prevent the escape of too many bees. If a fertile queen can be introduced the bees will quickly become contented.

Failing this, a virgin not more than 48 hours old—and less for preference—will readily be accepted on the second day when many of the older bees will have left, and those remaining find themselves in a queenless condition.

The old colony should have additional frames of comb added to the super, and be allowed to build up before attempting any further divisions.

Eight or ten days after the first nuclei were made, the strongest of them, if covering not less than five combs, can be re-divided, leaving the flying virgin on the old

stand and running a fresh one into the new division. Smaller lots than five combs do not bear re-division well, unless they are given one or two extra combs of emerging brood a few days previously.

Here is a useful rule applying to the direct introduction of virgin queens :—

Divisions made from colonies, or strong nuclei, containing an unmated queen, and without unsealed brood—or rather larvæ under five days old—will generally accept a virgin queen run in at the entrance or under the quilt, and fewer field bees of such nuclei will return. In consequence a large number of nuclei may be formed with advantage.

It is a good plan therefore to employ bees in this condition entirely for sub-division, keeping them strong in numbers by giving occasionally combs of emerging brood from the queen excluded chamber of strong colonies.

This "brood rearing" colony can have its combs rearranged two or three times during the season preparatory to splitting it up. But it will be found that more nuclei can be made during the swarming season than afterwards

Then, it is more difficult to find suitable combs, and there is a stronger tendency on the part of the bees to desert their newly-arranged stands.

When sufficient have been made—allowing a margin for failures—they should be gradually built up and transferred to regular ten-frame hives.

Nuclei should be helped by giving combs of brood and stores from such tiered-up "mother" stocks as can spare them, and be regularly fed when stores are short. Small lots which have failed to mate their queens, or those whose queen has become a drone breeder, should be united to others, as possessing mostly old bees they are not likely to develop rapidly if re-queened.

If well cared for as regards autumn preparation, such colonies having young queens are likely to winter in fine shape, and in the ordinary course of events should make excellent stocks the following year.—A. H. Bowen.

Disease Control.

Past and present issues of The British Bee Journal reveal a surprising diversity of experiences with "I.O.W." disease. Sometimes the affected colonies recover unaided, in other cases onion juice or port wine effects a cure, while in virulent cases every known form of treatment proved equally useless. Clearly the problem is a complicated one, and apparently not to be solved through the routine procedure of sending disease samples to research centres.

Personally, I am convinced that the problem should be approached from an entirely different angle, and investigations concentrated on the particular colonies that remain healthy and prosperous in an infected apiary.

The question is, what are the conditions that determine whether a colony is to be immune or otherwise? for it seems obvious that if we can reproduce the conditions obtaining in these apparently immune colonies, the disease problem is solved.

One bee-keeper maintains that "I.O.W." disease is a result of queens being reared under unfavourable conditions, or mated to diseased drones, and that, conversely, immunity from disease is a matter of having better reared and correctly mated queens. My own experiences lead me to accept these views as absolutely correct.

Although in an infected area, I had only one case of disease this season, one in 1920, two in the previous year, and in every instance the colonies affected were those headed by queens mated here. My pure Italian colonies required neither antiseptic spraying or medicated feeding to keep them perfectly healthy.

Our neighbouring bee-keeper was a staunch exponent of the "kill to cure" methods, and for three consecutive seasons had the unenviable task of sulphuring his bees and burning their belongings. This year disease broke out again in early summer, dead and dying bees were all over the garden, and the colonies so weakened that they failed to enter the supers at all.

The luckless owner, in despair, resolved to burn the lot and give up bee-keeping altogether.

Penna was offering cheap queens at the time, and our friend, as a forlorn hope, dequeened his hives and introduced the foreigners.

No treatment of any kind was given, and, very much to the surprise of their owner, the dying weaklings completely recovered, and are now strong, healthy colonies.

Strangely enough, while its neighbours were all crawling, one colony in the row remained unaffected, and is still healthy, after giving a large crop of surplus honey.

Can the scientists explain (1) how this one colony was able to resist *Tarsonemus woodi*, and (2) what became of the mites in those badly diseased colonies after the Italian queens got to work?

In a recent lecture, Dr. Rennie, after a full description of the mite, and the symptoms of *the disease its presence causes*, goes on to say that the brood is not infected, and the newly hatched bees are quite healthy until invaded by mites from already infected bees.

My opinion is that the mites are not the *cause*, but the *effect*, of disease conditions arising through inherent or acquired faults in the queen; therefore the appropriate treatment is to remove the primary cause (faulty queen), and the effects (mites) will disappear.

It is reasonable to suppose that if the queen is reared in a poor colony, and perhaps insufficiently nourished, her progeny will lack stamina and become infected. In such cases where the queen is not actually diseased, her colony may recover after treatment, but is liable to be re-infected. Where the queen is infected by mating with a diseased drone, we may look for the most virulent form of "I.O.W.," with disease present in the eggs as they leave the queen's ovaries. I do not

suggest that mites exist potentially in the eggs, but simply that the progeny of a diseased queen are predisposed to infection and unable to resist an invasion of *Tarsonemus woodi*.

The popular belief as to "I.O.W." disease being highly infectious is negatived by the well-known fact of stray swarms establishing themselves in diseased hives and flourishing exceedingly. And the opposite view that this disease is not infectious is confirmed by the fact that early summer insertion of an immaculate queen with a comb of her bees and brood will effect a complete and permanent cure of either the mild or most virulent form of Acarine disease. J. M. ELLIS.

Gretna, November 7.

[Acarine disease is *contagious;* it is very doubtful if it is *infectious*.—EDS.]

North Cheshire Notes.

A Contrast.—Brilliant sunshine over the quiet country-side. The pastures are dotted over with daisies, while butter-cups and dandelions reflect the rays of the great life-giver from among the grasses of the road-side. The hedge rows are beautiful with the white blossoms of the brambles, here and there, and in one spot white semi-wild roses among the scarlet hips of earlier blossoms give a pleasing contrast of colour The stubble fields show white patches of the scentless mayweed here and there, and if one looks closer one sees the beautiful if lowly flowers of the scarlet pimpernel, blossoming as profusely as if it were July. In the garden some of the bees are loading up with pollen from the mignonette, while others fly farther afield for the nectar which the ivy yields. This on Sunday, October 30. Now all is changed. The beautiful, if unseasonable flowers have gone, to be replaced by the glittering diamonds of the hoar frost, scattered "like ashes" over leaf and twig, grass blades, and house tops, holding the ground in a grip of iron, and putting ice half an inch thick on the ponds. The bees, quiet as death. This is November 10. Truly the year is an exceptional one.

To return to more prosaic matters. *Re* the Editors' remarks on my last note on judging by points. I certainly like to know myself when I see a sample of dark and somewhat cloudy honey gain a prize before a clear and light-coloured sample, where the difference lays, and failing being allowed to examine it (which, of course, is not practical) a statement of "points" is the only information available.

Mr. Stitch's facts do not appeal to me as convincing. Why should not bees *tell* each other where honey is available? *Telling* does not necessarily imply *speech*, as we understand it. Any means used to convey information is *telling*. If a deaf-mute gives us information, by finger signs or otherwise, we say he *told* us so and so, when passing it on. Man is not the only vertebrate animal that has the power of passing on knowledge. Dogs certainly are able to tell each other where good hunting is to be had. Bees undoubtedly have great intelligence. We are apt to say animals and insects do things by instinct. True, but what is instinct but the accumulated knowledge of countless generations.

I quite agree, Mr. Editor, with your remarks respecting honey taken from broodcombs. It is not so pure as that from supers. —D. J. HEMMING, Appleton, Warrington.

November 10.

County Bee-Keepers' Associations.

I believe Mr. Illingworth has done the craft a good turn by pointing out the shortcomings of our B.K.A.s, and trust the points he has raised will be fully discussed in the pages of the JOURNAL, with the result that bee-keepers and associations will be of more real help to one another by the time our next season opens. It is none too soon to start putting our house in order for 1922.

I have been a bee-keeper about as long a time as Mr. Illingworth, and for more than half that period a member of one of the best county associations, but I must agree with him that the direct benefit I have gained by joining is not great. Indirectly, it has brought me into touch with some of the finest fellows in the land, and our meeting at committees, shows, etc., are treats which I always look forward to, and would not willingly miss.

Being a member of the committee, I must be very cautious what I write, or someone will say that "people in glass houses should not throw stones." But, as my object is not "to find fault," but rather (if we can) to help our associations into being a more helpful and efficient aid to their members, I am sure no one will object to my supporting one or two of the objects mentioned by Mr. Illingworth, and aimed at by the Swiss B.K.A.s., and to suggest their adoption in some form or other by our own county associations.

One of the two most practical aspects which appeal to me is, *By a general honey agency, and by effective honey advertisements.* It is surprising how often we come across members of our associations who are able to produce good crops of honey but find a great difficulty in disposing of it. They have no business tact in this direction—and we cannot always blame them for that. The result is that their honey is often dumped on the market at an inopportune time, and sold at anything but its real value, just in order to get rid of it. A central agency under the B.B.K.A., with a sub-agent for each county association, would soon put an end to such practices, and place the produce of British bee hives on a sound basis as to value. Prominent advertisements, and more articles on honey and bees in the daily Press, would soon bring our honey where it ought to be (as one writer stated not very long ago)—"On the table three times a day." So far as I know, the only help we are now able to offer our members in this direction is by sup-

plying them with county honey labels at a nominal price.

The second aspect, namely, *By maintaining a department for Apicultural Statistics*, is, in my opinion, the most important of the whole list. Confronted, as most bee-keepers in this country are, with the continuous dread of having their apiaries wiped out with Acarine disease, the adoption in each county of some scheme on these lines is most urgent. It is true we have had government queens, and county re-stocking schemes, but on the whole these have afforded but very little help to our members. Even if legislation was granted us on the lines drafted out in the last bill, *Tarsonemus woodi* would not be in the least disturbed from some of its haunts. Our enemy lurks in some of our favourite and most unsuspected stocks; and the average bee-keeper—though often an expert—has no means whatever of detecting its presence till the infection is so far advanced as to show "the outward visible signs." We cannot all be constantly examining bees under the microscope for mites; and even if we could, how helpless we must feel in case of their presence. We are still waiting for a cure. In the meantime, there is something each county association can do to help its members, and that is by aiding them in the selection and purchase of home-raised queen bees from strains known to be resistant to disease. Every true bee-keeper cannot but feel grateful that during the last few years it has proved that such strains do exist. Could each county association make it their special aim this coming season to help each of its members to have queens of such strains heading all colonies, *Tarsonemus woodi* would soon be a thing of the past. It may now be argued that such a scheme would entail considerable expense on both the association and the member. I admit this to be so to a certain extent. Co-operation is a big word these days, and it could be used to bring down the cost of queen bees. By contracting early with the queen breeder appointed by the association, advantageous terms could be secured, and first-grade queens supplied at probably half the prices recently charged for them. A portion of the cost of each queen could be paid out of the funds of the association, and the remainder—quite a nominal figure—by the member himself.

Some bee-keepers' associations are in the happy position of being helped with grants from their county education committees, and as it is generally stipulated that the grant is to be expended on educational work only it would come in very useful to pay for lectures, experts' tours, etc., while part of the members' subscriptions and other donations could be utilised in a scheme as mentioned, or something on similar lines, and would be the means of raising the standard of bee-keeping in each county.

I wish to throw out these two suggestions to each county association, (but more particularly to the one I am a member of), to be discussed at the meetings at an early date.

T. ALUN JONES.

Halkyn, Flintshire.

Dual-Queen Work—The Double-Six System.

I would like to supplement the details given in my October 27 article to emphasise the fact that the dual-*queen* work commonly understood, and the dual-*colony* work of my Double-Six system, are very different things.

The term dual-queen work is applicable to the experiment Mr. Ellis tried at the heather with two queens in what can be considered as one brood chamber, with a central division board, allowing five combs to each queen, the foragers working in one set of supers overhead common to the bees of both queen's compartments below.

While we could hardly term five combs and a queen as a "colony," it is, nevertheless, exactly the same principle which would be applied for a clover flow where we would expect to have two powerful colonies of from twelve to eighteen-frame strength each, over which one set of supers would be arranged, the respective brood chambers (six frame sizes tiered) having a twelve-frame excluder covering them, and so maintaining single colony units, each with its own queen.

But while the Double-Six hive is perfectly equipped for this dual-queen work, already pointed out, its chief aim is to obliterate dual-queen or dual-colony work *on the eve of the honey flow*, and reconstitute the entire contents of the hitherto double-colony hive, as a one colony, one queen, one brood chamber (ten or twelve frames), one set of supers, and one *combined force* of foragers. It means that though you have a double force of adult and active workers, only one brood-chamber and queen has to be provided for out of the incoming surplus. To that extent it is superior to any dual-queen, supered force. The Double-Six system requires, and provides for, dual-colony work *for bee production*, the first necessity in any case. That in turn provides the material for the augmented *single colony* for the next stage in the season's work, viz., honey production, which in the end is what everybody with fully-fledged bee forces is after.—M. ATKINSON, Fakenham, November 12, 1921.

Questions, &c., for Bee-Keepers for Self-Examination.

585. Name the sources of nectar the honeys from which granulate quickly.

586. Describe briefly each form of observation (or observatory) hive in use.

587. How should filled sections be prepared for exhibition at a honey show?

588. In the selecting of sites for out-apiaries what should determine the distance between any two?

589. Amplify or comment on the statement that the sting of a bee is a modified ovipositor.

590. What may be learnt from the examination of the home of a colony of bees in a hollow tree?

591. Show how cane sugar may be changed into invert sugar for feeding.

592. Explain fully the process of honey-ripening.

J. L. B.

Honey Show at Barnet.

The Barnet and District Branch of the Herts County Bee-keepers' Association held their annual honey show at Barnet on October 29. The show was a very successful one, the room at times being packed. As there were no other attractions beyond a short lantern lecture, this was very gratifying to those concerned in promoting the show. It is not often one gets in a newspaper such a good, racy report of a honey show as that given of this one in the *Herts Advertiser* of November 5, and we therefore take the liberty of giving it in full :—

AMONG THE BEE-KEEPERS.

A BARNET EXHIBITION.

I am still wondering whether Saturday was one of my lucky days (writes a *Herts Advertiser* representative).

One who knows little about bees beyond, say, passing the time of day with them occasionally in somebody's flower garden, seemed hardly the right person to be commissioned to write an account of an exhibition organised by bee-keepers—especially bee-keepers of the high standing of those associated with the Barnet and District Branch of the Herts County Bee-keepers' Association.

It scarcely appeared to be a task for our crime and violence expert, who, I fancy, was away somewhere describing a football match, and the young writer who studied the "wasp question" last August and might, therefore, have been expected to know something of bees, was away for a week-end, pursuing—well, not bees, I'm sure.

Still, it's shockingly easy to report exhibitions of which one has no technical knowledge. My experiences at Barnet, on Saturday, constituted a fair example, and, at the risk of giving something away, I'll give my readers some notion as to how it can be done

In the High Street of Barnet I saw a small illuminated advertisement, near a Wesleyan church, and a long, dark passage. After a polite inquiry of the man in charge of the advertisement—who, I guessed, was a bee-keeper—I went down the dark passage with a reckless disregard of any hidden dangers it might conceal, and eventually found myself in a room with a lot of bee-keepers, some bees in captivity, bee-keepers' "gadgets" of all kinds, and a refreshment stall with lady in charge, all complete.

Simulating an expression of a deep understanding which I did not feel, I studied beautiful bottles of honey, wondrous appliances and the refreshment stall and then presented my compliments to the first bee-keeper whose eye I could catch.

INFECTIOUS ENTHUSIASM.

Bee-keepers, I found, on these official occasions, hurry around displaying all those qualities which one associates with the bee. Within a few moments two or three bee-keepers had fastened upon me, and quickly began to infect me with their enthusiasm.

Then I passed through the worst ordeal of the evening. It was trying, but was shortlived. A bee-keeper inquired smilingly and sympathetically : "Do you know anything about bees?"

I hesitated. Should I confess the truth and keep good friends with the Church, or should I mingle diplomacy with straightdealing and assume some knowledge. The habit of telling the truth, inherent in all newspapermen, was too strong. I confessed.

As always—or nearly always— honesty was rewarded. I had all the information I needed given me within about half an hour. If I had stayed the whole evening I might have written a book about bee-keepers and how they keep bees. Perhaps!

I am tempted to write here and now all I know about "shallow frames" and "queen excluders" and "honey extractors," but that would hardly report the exhibition.

MR. TOMS INTERVIEWED.

"This is the fourth exhibition we have held," Mr. Norris S. Toms, hon. secretary of the branch, and a bee-keeper for thirty-six years, told me.

"On previous occasions we have held our exhibition in conjunction with the War Allotment Holders' Association, but as they were not having an exhibition this year on account of the bad season, we decided to hold one by ourselves.

"Over thirty competitors have entered today, of whom eleven are non-members. Mr. J. Herrod Hempsall, F.E.S., kindly judged the exhibits, and, before leaving, informed me that, in his view, it was a first-rate exhibition, and that the quality of the honey, as a whole, was excellent."

"The past season," Mr. Toms went on, "has, of course, been an exceptionally good one. Most of our members have obtained a considerable amount of surplus honey, and this accounts, to a large extent, for the success of the present show."

Then Mr. Toms, who holds a highly responsible position in the Herts Bee-keepers' Association, was good enough to supply me with the following list of prize-winners :—

MEMBERS' CLASSES.

Six 1lb. jars extracted honey.—1, Mr. Lionel Hambling (South Mimms); 2, Mr. N. S. Toms (Barnet).

Six 1lb. sections.—1, Mr. T. A. D. Webb (Arkley); 2, Mr. Charles Bowell (Barnett).

Three 1lb. sections.—1, Mr. Fred Ellis (Arkley); 2, Mr. B. E. Scott (Wood Green).

Three 1lb. jars extracted honey.—1, Mr. F. C. Bishop (New Barnet); 2, Mr. R. Dymond (Whetstone).

Three 1lb. granulated honey.—1, Mr. H. W. Juniper (New Barnet); 2, Mr. F. C. Tidmarsh (Hadley Green).

One shallow frame comb for extracting.—1, Mr. H. W. Juniper; 2, Mr. N. S. Toms.

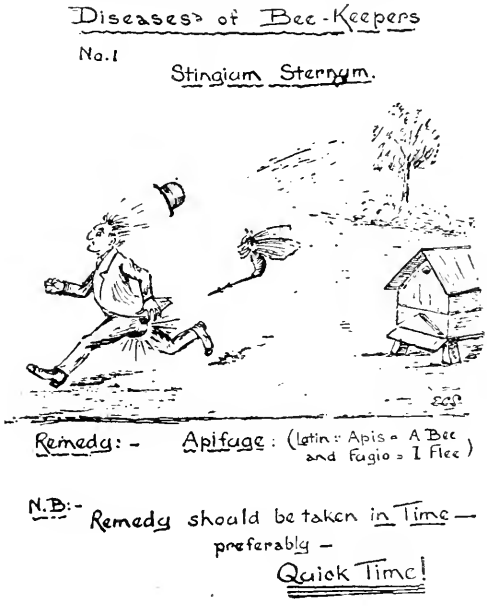
OPEN CLASSES.

Three 1lb. jars extracted honey.—1, Mr. C. A. Day (Stevenage); 2, Mr. C. Robinson (Andover); 3, Mr. R. R. Babbage (Brentford)

Three 1lb. sections.—1, Mr. A. E. Warren (Bletchley); 2, Mr. P. W. Jefferies (Barnet); 3, Mr. Frank Hoar (Elstree).

Mr. F. C. Tidmarsh, I learned, is president of the branch, and that it has Mr. P. W. Jefferies as its hon. treasurer and Mr.

Charles Bowell as its hon. assistant secretary. Other folk besides members had contributed towards making the exhibition a representative one. Oaklands Institute had lent an ancient bee-smoker and a "Little


Diseases of Bee-Keepers
No. 1
Stingium Sternum.
Remedy:- Apifuge: (Latin: Apis = A Bee and Fugio = I Flee)
N.B:- Remedy should be taken in Time — preferably — Quick Time!

Wonder" extractor, the Apis Club had presented a silver medal, and appliances had been exhibited by Messrs. E. H. Taylor, Ltd., of Welwyn, and Messrs. James Lee & Son, of Uxbridge.

THE THRIFTY BEE.

Both before and after my interview with the hon. secretary I had the privilege of some coaching in the art and craft of bee-keeping from Mr. C. A. Day, of Stevenage. In Mr. Day I discovered a versatile man. He has at least two hobbies besides bee-keeping. One is local government; the other is football! If he is anything like as efficient as a member of the Stevenage Council and as chairman of the North Herts Football Association as he is as a bee-keeper, I shouldn't be surprised if he gets the Mayora'ty of Stevenage, if that township ever becomes a borough. The fascinating little stories he told me of the ways of bees convinced me that the average bee knows more about economy than the Chancellor of the Exchequer, and almost as much about a neat and natty appearance as a writer of women's fashions.

"HIVE-BREAKERS."

My former ignorance on the subject of bee-keeping was further dispelled to some extent by a delightful lecturette given by Mr. Toms, and illustrated by lantern slides displayed by Mr. W. D. Ridley. It was pleasant to learn from Mr. Toms that at present there is no movement for shorter hours among the worker bees. There was one statement of his, however, which somewhat modified the high estimate of the "personal character" of the bee which had been forming in my mind ever since my arrival at the exhibition. Mr. Toms made the painful admission that bees are robbers by instinct, and that when the occupants of a hive are feeling, what the Bishop would call "under the weather," other bees break in and carry off their stores.

When next I meet a bee, I shall feel reluctant to treat her too cordially. For all I may know she may be a convicted "hive breaker." P. J. E.

Can Bees Tell the Time?

A French expert declares that bees are able to tell the time.

This ingenious Frenchman conducted an interesting experiment. He began by breakfasting in the open air at 7 o'clock, partaking of light preserves. Precisely at 10 o'clock the table was cleared. At the midday meal no sweets were served, but at 4 o'clock in the afternoon there was a light lunch with sweets.

Within a week all the bees in the neighbourhood seemed to get wind of what was going on, for they came in such swarms that they covered the table, and the meals had to be served indoors.

For weeks the visits of the bees were as regular as clockwork. They omitted the midday meal because no sweets were served then.

Subsequently a jar of jam was placed in a window for the first five minutes of every hour during the day. Within a short time the bees made hourly visits with such regularity that the time of day could be judged without reference to a clock.—From *Tit-Bits*.

Does Bee-Keeping Pay?

[10564] I am sending you herewith copies of my bee-keeping balance-sheets covering a period of four years. I have included that for the year ending April 30, 1922, so as to cover a larger period, though there may yet be further loss of stocks by the end of the financial year. It may, therefore, be looked on as provisional.

The annual profit per stock works out at £1 11s. 6d., which is quite good considering that six stocks have succumbed to Acarine disease during the four years, and my "pitch" is a back garden one, on the outskirts of this city, towards the North of Scotland. Extracted honey is worked for mostly.

The plan of deducting 10 per cent from value of previous year's hives and appliances I consider a reasonable one, but to get a truer estimate of their value in these days of changing costs, I shall probably go over them carefully at some future date, estimating the value of each item, and ascertaining how far this estimate agrees with the "on paper" valuation.

No charge has been made for books, subscriptions to Bee Journals, or travelling expenses, though one could reasonably include these.

I trust these balance-sheets may be of some interest, showing, as they do, that, in spite of losses, a profit on outlay can be secured from an interesting and healthy hobby.—A Northern Bee.

Balance-Sheet as on April 30, 1919.

	£ s. d.
Stock in hand	0 0 0
Purchases during year... ...	15 10 9
Net profit...	1 12 9
	17 3 6
Sales, honey and wax ...	3 15 4
Stock at end of year	13 8 2
	17 3 6
Stock in hand, three hives ...	5 0 0
Appliances	2 8 2
Two stocks bees	6 0 0
Carried to balance-sheet ...	13 8 2

Balance-Sheet as on April 30, 1920.

	£ s. d.
Stock in hand as on May 1, 1919	13 8 2
Purchases, appliances	1 3 11
Purchases, sections, etc. ...	2 4
Net profit	7 2 4
	22 13 7
Swarms sold	5 5 0
Honey, 85 lbs., at 2s. 3d. ...	9 11 3
Stock, end of year	7 17 4
	22 13 7

	£ s. d.	
Stock in hand, hives and appliances from 1919—	7 8 2	
Less 10 per cent. for depreciation...	0 14 9	
		6 13 5
Appliances purchased (bees, nil)		1 3 11
Carried to balance-sheet		7 17 4

Balance-Sheet as on April 30, 1921.

	£ s. d.
Stock in hand as on May 1, 1920	7 17 4
Purchases, appliances	0 19 6
Purchases, four stocks bees, including carriage	14 0 0
Sections, foundation and frames	1 18 2
Sugar for feeding	3 0 3
Net profit	1 3 10
	28 19 1
Sales, 4 lbs. wax	0 8 0
68 lbs. honey, at 2s. 6d ...	8 10 0
Stock, end of year	20 1 1
	28 19 1

	£ s. d.	
Stock in hand, hives and appliances from 1920	7·17 4	
Less 10 per cent. for depreciation	0 15 9	
		7 1 7
Appliances purchased		0 19 6
Four stocks bees ...		12 0 0
		20 1 1

Balance-Sheet as on April 30, 1922.

	£ s. d.
Stock in hand as on May 1, 1921	20 1 1
Purchases, appliances and queens	6 0 6
Sugar and sections	1 3 7
Net profit	8 19 2
	36 4 4
210 lbs. honey, at 1s. 6d. ...	15 15 0
4 lbs. wax, at 2s.	0 8 0
Stock, end of year	20 1 4
	36 4 4

	£ s. d.	
Stock in hand, hives and appliances from 1921	8 1 1	
Less 10 per cent. for depreciation	0 16 1	
		7 5 0
Appliances purchased		6 16 4
Two stocks bees ...		6 0 0
		20 1 4

Average net profit per annum, £4 14s. 6d.

Average number of stocks being worked, 3, giving £1 11s. 6d. profit per stock, per annum.

Bee-Keepers' Associations.

[10565] With reference to Mr. Flashman's article on above, I would like to point out one department he omitted to mention with regard to the Middlesex B.K.A., and that is the system of district secretaryships organised by the above Association, which has done excellent work this season, and thoroughly justifies its existence.

There is a secretary allotted to each district in Middlesex, who is only too willing to assist fellow members, and also to give practical assistance in any difficulties they may experience during the season. That this has proved a boon to many beginners in Middlesex is obvious.

Only last week I read in "A Dorset Yarn" about the bee-keeper who had ridden miles to seek advice from Mr. Kettle regarding wintering bees; this procedure is obviated by the system now in existence in the Middlesex B.K.A.

Everybody having an interest in apiculture in Middlesex should communicate with the hon. secretary, C. W. Mullen, Esq., 59, Olive Road, Cricklewood, when they will be allocated to their district secretary.—KENDALL YOUNG.

Deaf and Dumb Bee-Keepers.

[10566] I, and James Starling, of Isleham (nine miles from here) are both deaf and dumb bee-keepers. Are there any more in the British Isles, as I have not heard of any? I am a member of the Cambs. Bee-keeping Association.—WM. HINER, COTTAGE APIARY, Swaffham Bulbeck, Cambs.

Skep Honey.

[10567] Is skep honey best? Well, Mr. Editor, notwithstanding the fact—perhaps because of it—that it has been, as you say, "steeped in the discarded skins of larvæ and other things left behind 'em," and has been in such "close contact with the dejectamenta of the bowel" and other "conglomeration of impurities," it to my taste far surpasses honey obtained from supers. Why?

Mr. Ridley, in the October 27 issue, gives us the reason.

In skep honey, *i.e.*, if we break up brood chamber as well as the cap, we get a delightful blend of all flavours gathered from all sources throughout the season.

Of course, the breaking up of old brood combs involves care. This was my method. All brood in any stage must be put away. All slabs of comb quite free from pollen I would smash up on cream cloth or a hair-strainer, and what was left I stood together on a strainer and subject to top heat just sufficient to slowly melt the wax. When cold I took off the wax—which had run through with the honey—in a solid cake. Mix the two lots of honey together. Aye! what rare stuff that was. You would not find a particle of bee bread get into the honey by this process; it would all be left in solid pellets with the cocoons, etc., on the strainer, and could be rolled up into a ball, wrapped in paper, and saved to make a cheerful blaze some cold night in the winter.

About those shiny black robber bees. I very well remember seeing them fifty years ago, when I formerly kept bees. I put them down as being some kind of wild bee. I found them out-and-out stingers. Perhaps, as they are supposed to be "old veterans," they may have become cantankerous with age, as some others—not bees—do, who ought to know better.—WALTER HEWSON, Wickham Oreaux, Canterbury.

[It is quite possible to get a very nice sample of honey from a skep, especially from a cap, *if care is exercised*. Our correspondent's remarks *re* skep honey remind us of the tale we once heard of a young woman residing in one of the fen districts, who paid a visit to London for a few weeks. On her return home, being asked how she enjoyed herself, the reply was "I liked everything but the water, and that had neither taste or smell." One who has been accustomed to the full—in some cases very full—flavour of skep honey will not appreciate the finer flavoured honey extracted from *clean* combs free from pollen, or other deleterious matter, taken from a modern movable comb hive.

Numbers of bee-keepers have taken the hairless bees as specimens of another variety.

In a covering letter Mr. Hewson tells us he kept bees sixty years ago, but reluctantly gave them up about 1890, being obliged to do so owing to pressure of circumstances, but has started again this year—a break of about thirty years. It says much for the fascination of bee-keeping that his interest in it has not declined after so long an interval, and we trust he may have abundant success.—EDS.]

Treating Foul Brood.

[10568] In developing a nucleus into a stock this season I added some good combs stored with honey last year. Foul brood showed a month later on some of the combs. I took out all ten combs, one at a time, and well sprayed them both sides with Bacterol (two tablespoons to one quart of water). This was done three times weekly until the clinging bees were also well soaked. The perforated cells I opened out with a matchstick to get the remedy well home. In a month no trace of disease was left. As fast as the bacilli or spores were developed from their hiding places by the warmth of the season and the hive, so they encountered conditions fatal to them. Destruction of hives and combs, etc., it would seem, may thus be avoided. Let the bacilli come out, and then fight them; so the hive becomes clean and healthy. A little spray over the frame-tops before lifting out the next comb and replacing the last kept the bees quiet, and sometimes, though quite unprotected, I would not get a single sting. Your recent correspondent, who only sprayed once in three weeks, need not be surprised that he made no improvement.

I hope the day is not far distant when you will revert to ordinary uniform type in our "B.B.J." Few people will object to an

extra penny per week if our little paper can be thus improved. Its regular arrival is always welcome, bringing as it does a sense of fraternity in a common interest and a breath of the country to the town bee-keeper, the country to which each season lends its own peculiar charms. Your paper keeps alive that vision we have of one day going to live there in a small house and a big garden and orchard, with a few well-tended poultry of a good breed contentedly scratching up the litter in a snug scratching shed if the weather is bleak, or roaming under young fruit trees, pruned in their season, which throw their welcome shade over some prosperous stocks of bees in weatherproof, well-painted hives, and the Sabbath comes round again, a morning service conducted by a Rev. Hemming sort of Vicar, and maybe a hearty handshake with a Violet farmer churchwarden.

For all that it stands for, our little friend the "B.B.J." merits better type and better paper, too, if it is to be worthy of its fraternal mission.—H. O. MORGAN (CAPT.), 35, Cowper Road, Redland, Bristol, November 2, 1921.

[We thank our correspondent for his hints, and more for the kindly interest in the Journal his letter shows. Whenever we are able to effect any improvement we shall be very pleased to do so.—EDS.]

A Swarm in October.

[10569] Can anyone give an explanation for the peculiar occurrence witnessed in one of my hives?

The season of 1921 gave me four swarms which were all caught and hived. During the second week of September I found it necessary, however, to unite the weakest swarm to a stronger one. They united well, and there I left them until I began slow feeding about a week later. To-day, three weeks after uniting, when overhauling all my stocks to see how they were off for winter stores, I found that particular hive almost void of bees. About a handful were distributed all over the ten combs. There was some capped brood ready to emerge in a day or two, as well as larvæ. Also some sealed honey in every comb, amounting to about 12 lbs. in all. Only one outside comb had a few unsealed cells of honey. There was no sign of any robbing having taken place—not a single dead bee to be found. The only other alternative: Is it possible that the unusual weather we have been having lately has induced that hive to cast an October swarm?

I should be most interested to know if any of your readers have had a similar experience, or can throw some light on this strange discovery. D.S.

Oct. 10, 1921.

[It is quite possible the bees have swarmed; several have been reported during the last week or two. Our correspondent does not say if the queen was present or not. Better unite what bees are left to another stock.—Ed.]

Bees Robbing an Apple Tree.

[10570] In a letter dated October 21 from a friend in Northamptonshire, he says, "My bees are robbing an apple tree. I do not think I have ever seen as many wasps round a plum tree as bees round the apple tree. They had eaten a lot to the skin, and started on a great number of others. Have *you* known them to eat fruit like that?" I have kept bees well over sixty years, and I never have.—R. T.

Experiences with Foul Brood and a Query.

[10571] Seeing reports recently in the "B.B.J." of outbreaks of foul brood and losses resulting therefrom, I feel impelled to give your readers a few experiences I have had with the malady. My first one was in 1916. On opening my three stocks for spring cleaning I found it in all of them, and being a novice—never having seen it before, only illustrations in books and a lantern lecture at Sheffield—I thought, "Now I'm in for it, and no remedies at hand." Happening to go to my cupboard, I saw the flour dredger which I had used the previous autumn for uniting and into which flour I had put a good thumb-and-finger pinch of Izal powder to intensify the uniting scent. I burnt seven of the worst affected combs, and ten others I put into a clean hive with one of the queens and peppered them well with the uniting mixture, making my mind up at the time that at the end of a week they would be burnt also, should no improvement take place. In three days I dusted them again, as they seemed to be working with a bit more ginger behind them, so I gave them another dusting two days after. A very marked improvement had taken place at the end of the week, and the dusting was kept up on alternate days for another week, at the end of which the disease had gone, and the stock never looked back. In fact, I took one hundred and twenty pounds of surplus honey and reared four queens from it.

I have had two more outbreaks since, one in 1919 and the other in the spring of this year, both of which have been stopped by the above process. Dose: As much Izal powder as will lay on a shilling to a heaped-up tablespoonful of ordinary flour.

Now for my query. How does foul brood originate? From my recent reading I learn that pollen grains are living organisms, and, if so, may they not be subject to disease, death and decomposition? May not it be feasible for the bees to carry home such diseased pollen grains and for death and decomposition to take place in the cells, then when the spring breeding begins the delicate digestive organs of the bee larvæ become affected so as to cause death and a virulent and contagious disease is set up in the hive?

How would Mr. Tarsonemus Woodi fare in a dust up, without gloves?—I wonder! WM. MALLENDER.

[It is quite impossible for foul brood to originate as our correspondent suggests. Pollen is a living organism, but only as all

other plant life. Foul brood is caused by bacteria and can only occur if certain bacteria are present. A full description is given in the new edition of "The British Bee-keepers' Guide Book," pages 170 to 182. —EDS.]

Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.

Bees Deserting Combs.

[9934].—For the past two years I have been a regular reader of your journal, as I then commenced bee-keeping, and I should be glad if you would, through your paper, give me your opinion on the following experience which I have had with my bees. I may say I had three stocks of bees, and after extracting in July I allowed them to store the rest for winter stores, and in the middle of this month (October) I examined them and they were all well stocked with stores and all three very strong stocks. About two days ago I noticed an unusual commotion at one of the hives, and in a day or two found it was a case of robbing.

There was quite a lot of fighting at this time, so I contracted entrance of hive attacked to a bee space and placed a piece of glass in front of entrance, and also examined hive attacked, when they appeared all right and were quite active. Two days passed and still the robbing went on, but the defenders appeared to be putting up no defence, so I opened out hive and was surprised to find the brood chamber deserted and all the bees clustered outside chamber and dying of starvation, although there was plenty of stores in the chamber. I put all into a fresh hive and gave warm syrup, and was fortunate in saving the bulk of them, although I perhaps lost about five thousand. The next day (Saturday) I again examined them and found they were quite active, and I also found the queen (this year's), so that they were not queenless, and I should like your opinion as to why the queen and all the bees deserted the combs and stores in this manner. I have the attackers in a claustral hive and have now closed the chamber and intend to keep them inside for a few days. Thanking you in anticipation of a reply through your journal.—L. MACKNIGHT.

REPLY.—The queen and bees were evidently overpowered by the robbers and abandoned their combs and stores to them. We believe this does happen at times; at others, under similar circumstances, the bees of the colony attacked will join forces with the robbers.

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CAN YOU BEAT IE?—During 1921 we sold nearly seven hundred Stocks and two thousand Queens. Next year we hope to do still better.—PEARSON & GALE, Marlborough. v.29

CEILING RACK for drying and airing clothes; simple to fix, and very useful, especially during winter weather; price, complete, with instructions for fixing, 6 ft., 5s. 9d.; 7 ft., 6s. 3d.; 8 ft., 8s.; carriage paid.—BURTT, Manufacturer, Gloucester. v.33

HONEY, 6d. PER LB.—Finest Australian, 60-lb. tins, 30s.; 9-lb. tin, 7s. 6d; sample free; all carriage paid.—HERBERT & CO., 28, Southwark Street, London. Established 50 years. r.u.16

HONEY.—Finest Australian, two 60-lb. tins, 58s.; one 60-lb. tin, 30s.; finest West Indian "Melta" Honey, two tins, about 60 lbs., 73s.; one tin, 56 lbs., 40s.; four tins, each 7 lbs., 24s.; delivered free any railway station in Great Britain. Immediat. delivery.—LONDON TRADING AGENCY, 32, St. Mary Axe, E.C.3. v.59

WILLOW HERB.—Plant now for 1922. 12 roots, 2s. 6d.—BOWEN, Apiarist, Cheltenham. v.48

20,000 FOR DISPOSAL.—Cultivated Wood Hyacinths. Blue; not Bluebells; valuable bee plant, honey and pollen; 2s. 9d. for 50, or 5s. 100, postage extra. Plant now.—SEALE, Ashley Cottage, Oatlands Drive, Walton-on-Thames, Surrey. v.55

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THE ACARINE 1921 ECLIPSE PAD.—It knocks out moths and mites. Made up to order and posted by return, 5s. each.—S. H. SMITH, 30, Maid's Causeway, Cambridge. v.13

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THE WHITE HOUSE, LIFTON, DEVON.
(Close to the Great Western Station.)
MESSRS. J. KITTOW & SON have received instructions to Sell by Public Auction at the above on Tuesday, November 22, 1921, at 2 p.m., 15 HIVES OF BEES in patent Hives and a large quantity of BEE HIVES, APPLIANCES, ACCESSORIES, and over 400 lbs. of HONEY, which will be sold in convenient lots.
The Hives of Bees are strong, with abundance of honey for winter use. The Boxes and Hives are all practically new, and everything in first-class condition.
The above can be inspected any day by application to Mr. David Hunter, Lifton, Devon, and full particulars may be obtained on application to the Auctioneers, High Street, Launceston.

Orders booked now for April Stocks. Catalogues shortly. PEARSON & GALE.
Marlborough.

Legislation v. Education.

Two very significant contributions appear in the October number of the *Bee World* which are given below. Mr. R. Whyte is an honest opponent of legislation in any form (not one of the "oppose the Bill in its present form" clique), an opponent who comes out into the open and thus commands respect, and his contribution is worth careful consideration. We can sympathise with his disappointment, even though it is only what one might have expected from those few who made so much noise when the Bee Diseases Bill was before Parliament, and more when it had to be postponed. To make a noise appears to be all they are capable of, otherwise the breathing space they have had from that proceeding during the past summer would have been utilised to try and formulate other schemes, some "constructive work," as Mr. Whyte puts it, to try and make legislation unnecessary. We are with Mr. Whyte that "some voluntary scheme" would be better than compulsion —*if it could be made effective*. But there lies the whole trouble; the thing is impossible. We hold that if only one bee-keeper refused to deal with his diseased bees any voluntary scheme would fail. A whole district could be infected, and re-infected, from one diseased apiary, and there would very soon be others who would cease to fight disease when all their work was rendered futile, unless the one source of infection was *compulsorily* closed—and that could not be done without legislation. Education alone will not do it any more than it has eliminated or even mitigated crime. We have in this country a goodly number of the "lamp-post" variety of bee-keepers mentioned by Mr. Hopkins. Those who do not want legislation and are so certain that other methods could be adopted have had over twenty years since legislation for bee diseases was first brought forward in which to formulate some other scheme. All they have done so far has been to howl and whine every time an attempt has been made to secure protection for the careful bee-keeper against the criminal carelessness and cussedness of those who refuse to take the most elementary precautions against the spread of disease. Mr. Whyte says:—

Legislation.—It is admitted by our Editor that legislation, short of being put into proper practice, will only be a farce and a source of irritation. He also agrees that a liberal fund is necessary if a policy of education, friendly guidance and encouragement is to be conducted among the rank and file of bee-keepers. It is clear also that the Government is not in a position to spend liberally, and may remain so for years, in view of the general financial position of the country. The opportunity therefore is fitting for bee-keepers themselves to put their own house in order by some *voluntary* scheme. Why do those who upheld such a course prefer now to remain silent? It is surely idle to criticise without co-operating. It was all very well opposing the Bill and legislation—I am not a believer in either—but where is the constructive work of those who upheld legislation 'in principle' but merely disliked the last Bill? I personally believe only in educating the rank and file of the 'craft,' in introducing better bee-keeping, in encouraging the average bee-keeper to take more interest in his bees and in the study of bee-keeping literature. Nevertheless, I shall be glad to support an organised movement for removing every excuse for legislation, by introducing a *voluntary* alternative scheme to which a liberal Government grant would be merited, and not in any way compare with the heavy expenditure which legislation itself entails. *Now* is the opportunity for taking such a step. Why not make a move? Do members of the pro-legislation anti-Bill wish to merit being called mere *obstructionists?* They cannot really have it both ways. They have either to join the non-compromising anti-legislation party, which I personally support, or formulate a better scheme than the Government's. I repeat, it is now the opportunity to act. What are they waiting for?

"*Opponents of legislation do not believe that it has ever rendered more good than harm to any country.* Can our friend Mr. I. Hopkins, who is so anxious to see legislation introduced in Britain, inform us by statistical comparison and otherwise of the benefits which New Zealand has derived from legislation? I am sure all of us would be grateful to him for an exhaustive answer."

By a fortunate coincidence the last paragraph of Mr. Whyte's letter is answered by Mr. I. Hopkins on another page in replying to a letter from Mr. Whyte in the "B.W." for June as follows:—

BEE-KEEPING LEGISLATION.

SIR,—I have written so many times to the *Bee World* and other journals on the subject of bee-keeping legislation that it may appear to some I write for self-glorification. It is not so. My object is to give those who are doubtful of the benefit

of legislation my experience and the great aid legislation has been to New Zealand bee-keeping. Just now I desire to show that Mr. Whyte has based objections to legislation on the wrong premises. (June number, p. 7.)

In his opening paragraph he objects because bee-keeping legislation interferes with personal liberty; it would be a sorry world if we all had the liberty to do just as we like without thought for others. It is an absolute necessity of our civilisation that personal liberty shall be curtailed, in so far that we shall not be permitted to injure our fellow-man without being punished. All our laws are based on that principle, so that it is illogical to base objections on that score.

In the second, Mr. Whyte asks for information as to what legislation has done in other countries. Surely he must have overlooked many statements made in the *Bee World* and the *British Bee Journal* as to the benefit received from it in New Zealand. Briefly, the period from 1884 to 1907 was nothing but a desperate struggle against disease in all parts of the country; many, despairing of ever making headway, gave up bee-keeping. The value of the output of honey and beeswax for the year 1906 was £35,223, while that for the year ending March last is not fully tabulated yet; but from about two-thirds of our bee-keepers the official figures are, from honey alone, £126,500, as the result of legislation enacted in 1907.

I take no notice of most of the Acts in the U.S.A., as they were never any good for suppressing disease, hence their altering them. They were not drastic enough in the first place, as American bee-keepers relied too much on the educational idea, of which Mr. Whyte thinks so much. One might as well try to educate a lamp-post as some careless, obstinate individuals. One would make as much impression upon one as the other; we have been through it all. Finally, I have no hesitation in saying Mr. Whyte has not grasped the subject sufficiently well to make out a good cause for his side.

Yours faithfully,

Auckland, I. HOPKINS.
New Zealand.

Will our readers note the last paragraph of Mr. Hopkins' letter? We do not by any means always agree with what he writes of bee-keeping in this country; he is far too much out of touch with conditions *and persons* in this country, and is apt, like other bee-keepers in countries far removed from our own, to take some would-be authorities at their own valuation, and attach too much importance to what they write on the presumption that they, as they make a lot of noise, represent the views of the majority of British bee-keepers, when they only speak for a very small minority, possibly only for themselves. But we believe Mr. Hopkins *does* know the conditions in New Zealand, has known them for many years, and can speak with authority on them.

While on this subject we give an extract from the *American Bee Journal* for October. It is taken from a letter by Frank van Halten, who has done inspection work in North-east Kansas, and is in a reply to Mr. Allen Latham. The italics in these extracts are ours:—

"But from the standpoint of the bee inspector, I say, I want a law that will stand behind me and back me up when I tell the bee-keeper that he must keep his bees or disease is liable to wipe them out, *and some of his neighbours' at the same time. I want to give him a little compulsory education.*

Mr. Latham is right when he says that it is only through education that we shall ever clear this country of bee diseases. and the movable comb hive (note that I do not say the movable frame hive) is one of the greatest things in the education of the bee-keeper if the inspector uses his opportunity. Mr. Latham prefers educating the bee-keeper to the movable comb instead of legislating him to it. *But how can we make him take the education?.* In Kansas we compel parents to send their children to school until they are 16. *Many now in school would grow up illiterate if it was not for that law.* People shy at education as though it was a pestilence. I have talked until my throat was tired, and then had the bee-keeper wind up the intercourse with the remark, "Well, I guess I will let 'em set. If I get some honey it don't cost nothing, and if I don't, I don't care."

When we undertake to educate all bee-keepers to correct methods we have, as a schoolboy would say, some job. About two-thirds of them will not come to bee meetings, they will not read bulletins sent to them free of cost, they will not, or cannot, take time to listen to the inspector, and they would not treat their own diseased bees if treatment was not compulsory. I have often explained the advantages of straight combs and good hives, and as soon as the bee-keeper found there was no law compelling him to keep his bees better he lost interest, *even though admitting that he ought to do something.* But when he was told that *he had ten days to treat his diseased bees, or the law would be after him,* he began to ask questions."

Incidentally, Mr. van Halten, as will have been gathered from the above quotation, would like a law to prohibit keeping bees in hives with fixed combs.

Skeps, which one or two bee-keepers would like to see revived in this country, would come under this category. Fixed comb hives are, we believe, prohibited in New Zealand. To try and revive their use in this country is, in our opinion, a retrograde movement in which we decline to take any part. With very few exceptions, anyone who wishes to keep bees could knock together a hive which, if not up to the finish and workmanship of those turned out by skilled woodworkers, would be weather- and bee-proof, and answer their owner's purpose. In that connection we quote the last paragraph of Mr. van Halten's letter:—

"As an inspector, I do not care what kind of a hive the bee-keeper uses. He can buy it or make it any old way he likes. But I do care what kind of a comb he uses. I want the comb to be straight enough to be taken out without too much work, and I want it *bounded by a frame that will hold it together*. He may keep his bees any way he likes, just so he has his combs in such shape that I can *look at all the brood without tearing his hive to pieces*. But he will not do this unless I have behind me a movable comb law."

We commend the above to those who have written to us in favour of skeps. When they were "taken up" at the end of the season there was something to be said for them, in that this proceeding tended to keep disease in check a little by destroying the disease-infected combs and fumigating the hives, but even this small advantage is lost if the skeps are supered with sections or shallow combs and kept year after year, as there are no means of examining the brood combs.

A Dorset Yarn.

It is many years since bees were on the fruits of apples as they are this year. After the recent gales the ground is strewn with all those the birds and wasps had started. We knew it was no use to pick them for storing. All that had any part of the rind eaten were left on the tree. Bees must have been at them all this last month; seven and eight bees in one apple were seen on November 7 as they lay on the ground. The robbers' song was loud and distinct; bees came from all the hives in the valley orchard. They do not attempt to rob each other, but only the apples; these are hard keeping fruits, but very juicy. One does not like to open the hives and look at the combs now it is November; the birds pecking the fruits must leave in them a lot of the moisture that is crushed out of the pulp as their bills keep on striking it. The bees make the same motions with the abdomen as they do when taking up honey and sugar syrup. One would expect that the apple juice would ferment in the cells. I am not clever enough to know how it will act on the bees, but do not look for good wintering with such food as the juice from these hard apples.

Since writing the above, frost has kept the bees in more, but each day, when it is a bit warm, bees are on these fruits that lay on the ground among the leaves. Those that were away from the trees were frozen, but even in these the bees are trying to find some moisture. The greatest number comes from a very strong stock that has a box of ten shallows beneath the brood box. Until the frost came they were eating the ripe raspberries, as well as hunting the blossoms on the same canes. It is not only from our own fruit that the bees have been getting stolen sweets, but from that of everyone near us who has had a large crop of apples. Birds start them, and our bees at once got to work in the cavities made by their bills. To-day, Saturday November 19, from nearly all hives bees are moving in and out: they can be heard flying overhead, yet there is no sun, it is only those fallen fruits that they seem to go for: should expect them to fly round to drop their fæces, as this moisture of the apple must be somewhat troublesome to the bowel.

When speaking on horticulture at a village institute last week, I was able to get in a bit about bees, their great help to the fruit grower, and also the extra returns they would make in the year's total. The valley of the Stour has great wooded parks, as well as immense woods of all kinds of trees in which bees delight. These small-holders had a very good opportunity of getting a good lot of this extra honey, as huge trees of sycamore and lime were close to them.

A few weeks since I was speaking at a village where one wealthy owner in years gone by had pulled down all the cottages that were in sight of the mansion, to make room for his extensive pleasure grounds and a lake of water, which this year of excessive drought has dried up completely. This is one of the most beautiful pleasure grounds that I have ever seen. The head gardener is an enthusiastic bee-keeper, and he reaps the harvest from these sylvan giants. One could not help thinking this was just such a place that Goldsmith saw when he wrote "The Deserted Village." "Sweet auburn, loveliest village of the plain." Here was everything beautiful, the village of toiling men was gone, only the church left, but the bee-keepers in the next village all tell one of what was once a beautiful village, all levelled for the pleasures of the rich.

"Ill fares the land, to hastening ills a prey,
Where wealth accumulates and men decay."

In all my teaching of horticulture and bees, I teach the love of home and village life, how field after field can be worked and planted, and the worker get the results of his toil. Nothing is so helpful to the toiler as when he sees his crops returning him a hundredfold; it gives him a better grip on life "to sit beneath his own vine and tree," but it can only come by toil; without

capital the toiler can only add to his income by more toil. As one writer in the old Book puts it, "In the morning sow thy seed, in the evening withhold not thine hand." The soil can be worked by day; at nights in winter buy a good pattern W.B.C. hive and make others like it; have everything in readiness for another season, live simply, you can have the best of fruit, vegetables and honey: the cows will come as the farm grows, then you can make your own butter in addition. Those who eat flesh foods can have their own pigs killed. We have never had land enough to keep sheep, but the cows are up to thirty.—J. J. KETTLE.

Jottings from Huntingdonshire

This week I must go back to the construction of the hive. Past experience has taught me that one learns more of a subject when frequent references are made to the elementary stage than if a minute description of one particular branch of the subject is given at once and then left to sink in or confuse—generally the latter—the mind of the learner. A hive, then, needs a floor-board and a stand. This is obvious to the most uninitiated. The floor-board is of importance, the stand less so. Like pigs, bees have very clean habits, and enjoy opportunities of practising them, and, like pigs, bees if forced to dwell in filth only add to mire, but, unlike pigs, bees cannot, or will not, thrive in surroundings which they are unable to keep wholesome. It is very essential, therefore, that a floor-board should be so constructed as to enable (*a*) the bees to keep it clean, (*b*) the owner to assist the little creatures in their anxiety for cleanliness. This being so the floor-board should be as smooth as it is possible to get it, and as light in colour, but not painted. Here emery paper will come in handy. The size of the board should be just sufficiently large to enable the brood-box case or body-box to fit down square upon it. There are such things as double floor-boards and intersectional floor-boards, and various others, but these can wait. Your floor-board complete, it needs setting upon something. "Oh, yes," you say, "legs." True, the hives one generally sees stand on legs, but, believe me, unless you are an adept at joinery you will leave legs alone. I have seen a few home-made hives in my time, and very few have had legs that did not rouse one's ridicule. Either they have been unequal in length, giving a dot-and-carry-one appearance, or have pointed inwards, suggesting an anti-Pussyfoot condition, or have pointed outwards, making the hive look as if it wanted to sit down. The floor of the hive can rest quite comfortably on two suitably sized logs of wood, or for that matter on a few solid piles of bricks. What is of great importance is that the floor-board when resting is firm and level. A deviation from the latter might be permissible in rainy districts, *i.e.*, a very slight tilt from back to front. An alighting board improves the appearance of a hive, attach one if you are skilful enough, if not prop up a piece of board so as to reach from the hive entrance to the ground, the board being sufficiently long to give not too rapid an incline. Needless to say, the hive needs a roof, but if you can manage a brood-box and body-box you will be sure to roof it, and you will take care that the roof is rain-proof, and, what is more, snow proof. I have as recently as last spring taken a swarm one week and been caught in a snow-storm the next. Spring snows, though possibly of short duration, are usually accompanied by a pretty stiff wind, so you will not be content to call your roof finished until you have well covered it with roofing felt, and painted it liberally with a paint which must not be black, dark brown, dark red or deep blue; in fact, no colour which absorbs a major portion of the sun's rays. Now let us get back to the swarm of bees you are purchasing to introduce to your hive. On that first swarm possibly depends your entry into bee-dom—if it serves you well you will never forget it; if it serves you ill you will never forget it. You will want it to be a remembrance of joy, and in it are all the germs of "Beeitis," a most wholesome complaint, or "Bee-die-tis," which latter may choke you off bee-keeping before you have hardly began. Be sure, then, to get your first bees from a source you or someone who knows better than you, knows to be reliable. Don't rely on a chance swarm. You know not from whence it cometh—it may bring you a blessing, but it's more likely to bring a curse. Oh, yes, I have heard of stray swarms taking possession of some derelict old hive which has set to work, and produced in one season such honey as never was. During this past year I bought a swarm which, for some unaccountable reason, was an unwarrantable time on the railroad, and when it arrived in those days of terrific heat looked for all the world like a heap of tea leaves. Exhausted through lack of food, and perspiring alarmingly, when I emptied the bees out for hiving, beyond a few dozens they looked almost too weak to crawl into the hive. Many died, a few lived, and the queen was a marvel, and at the season's end I was from that hive rewarded with a fine lot of surplus honey. These things are exceptions. If you know of a friend whom you are convinced is a judicious bee-keeper, get him to supply you, or look down the advertisement columns of this journal. Remember, no self-respecting apiarist will risk his reputation by selling swarms as disease free if he knows the bees are not, nor will he send out a swarm headed by a queen who has lost her virility. Get a first swarm, then, of good bees—if you are very nervous order Carniolans; if sporty, Italians, or if you want quick returns and increase, Dutch. Hybrid bees may be sweet-tempered or the reverse. Swarms of Holmewood bees are usually booked a season ahead, so be content with some of the first three named, and await the result. —E. F. HEMMING, Steeple Gidding.

Notes from Gretna Green.

Cordite Boxes.—In reply to several inquiries intending purchasers should apply to Central Offices, H.M. Factory, Gretna.

Dual queen Methods.—Mr Atkinson (page 537) has misunderstood me. My experiment at the heather was with two five-frame lots side by side in one hive, but supered separately, *not* working over excluder in a joint super. The Atkinson methods have distinct possibilities, and seem well adapted to meet the needs of those who wish to secure large crops of honey by intensive rather than extensive bee-keeping. The subject cannot be given justice in a short paragraph, and will be taken up again

Disease Control.—Apropos of my contribution (page 535) paragraph 4 does not appear as I wrote it. In cold print it reads as if "an unknown bee-keeper" has shown the way to victory in the war against "I.O.W." disease

As a matter of fact, the said bee-keeper is quite well known, and I gave his name.

What possible explanation can there be for its omission? The editorial footnote also requires an explanation. As "infectious" and "contagious" have the same meaning, what distinction can be drawn between them in relation to "I.O.W." disease?—J. M. Ellis, November 18, 1921.

[We use our own discretion as to whether we advertise names or not. We have good and sufficient reasons for not publishing the name given by our correspondent. We know him too well.

May we advise Mr. Ellis to invest in a good dictionary. However as the information may be useful to others who have not, and cannot afford, such a work, we give the following from "Webster's International Dictionary".—"Syn. Contagions. Infectious. These words have been used in very diverse senses, but in general a *contagious* disease has been considered as one which is caught from another by contact, by the breath, by bodily effluvia, etc.: while an *infectious* disease supposes some entirely different cause acting by hidden influence, like the miasma of prison ships, of marshes, etc., *infecting* the system with disease. This distinction, though not universally admitted by medical men as to the literal meaning of the words, certainly applies to them in their figurative use. Thus we speak of the *contagious* influence of evil associates; the *contagion* of bad example, the *contagion* of fear, etc., when we refer to transmission by proximity or contact. On the other hand, we speak of *infection* by bad principles, etc., when we consider anything as diffused abroad by some hidden influence."

In a word, then, the germs of a contagious disease are conveyed by *actual contact* with the diseased animal or person: an infectious disease may be contracted by only being in the vicinity of one having the disease, as in the case of an epidemic of influenza. During one of these epidemics a gentleman in a barber's operating chair remarked to the barber on the prevalence of the disease "Yes," said the barber, "in my opinion it's in the *hair*." "Then that must be especially bad for you," his customer remarked. "Oh! I didn't mean the 'air of the 'ead, sir, but the *hair* of the *hatmosphere*," the barber replied. That anecdote has the thing in a nutshell. Had the germs of the disease been in "the 'air of the 'ead" it would have been *contagious*, but *infectious* if in the "*hair* of the *hatmosphere*."—Eds.]

A November Ramble.

A beautiful, clear, cold, sunny afternoon makes me feel as if a ride out somewhere on the old bike would perhaps give me a little note on nature to send to the "B. J." So here it is. Going out from Clay Cross towards the south, the road runs along the ridge of a hill for three or four miles, and on a clear day, such as it has been to-day, the view is magnificent in the extreme. On the left hand is the Rother valley, where all water draining into it runs towards the north; while on the right is the Clay Lane valley, and all water draining into it runs towards the south. I question is there another place in England like it? In the Rother valley are to be seen numerous collieries and colliery villages, while away on the distant hills some five miles away is to be seen Hardwick Hall: while allotment gardens, green pastures and clover fields, interspersed with a few ploughed fields, make up a rare panorama. Whatever the turnip crops in some parts are, they have certainly done well along this road side, for I passed some crops of large swedes and mangolds.

As I get to Stretton the view opens out more on my right hand. Instead of the wide rolling valley of the Rother, it drops down steep for 200 or 300 feet, then up again on a gentle slope for about a mile, only to repeat itself again in the Amber valley. But the view on that side opens out yet more as one gets towards Higham. From a hill top at the water tank there one can see right up the Amber valley to where it starts at Gladwin Mark, eight or nine miles away, where lies Wooley, Milltown, and Ashover, which are shielded from the cold east winds by a range of hills that cuts all sight of them off from Clay Cross.

From this tank hill I often come to view one of nature's prettiest sights. There in the valley where the Clay Lane brook joins the Amber stands Ogston Hall (where is kept a very good strain of Dutch bees), around which finds some fine trees whose leaves to-day (Nov. 6) were every shade of colour; some years they have been quite bare by middle of October. I remember coming to an exhibition at the White City some years ago on the last Saturday in October, when the leaves on the trees around High Wycombe then looked just the same as they did around Ogston Hall to-day, while about here leaves had been off the trees some time. I remember passing a remark at the time that I never expected seeing leaves on the trees any more that year. Hereabouts the fields run from two or three to seven or eight

acres in extent, and are surrounded by tall hedges, and dotted about with trees which are a sight to behold when the hawthorne is out in May and the fresh green grass is springing up. But the scene was as good to-day—the beauty in the colour of the leaves, the pastures green with luxuriant grass to one's boot tops (a contrast to what it was in July when everything then looked brown and bare). It hardly looked like November; but the nip in the north wind made one realise that, although the sun was shining brightly over Crick Hill, winter is not so very far away. I once took an Australian cousin to view this scene, and he said the fields looked like so many gardens to him, as everything out there is all open: but he said it really was a sight worth going a few miles to see. And it is worth going to see more than once, for the scene is ever changing at all seasons of the year. I have stood there and heard people exclaim as they rode by in their motor-cars, "Oh, what a lovely sight!"—and not a few have pulled up to drink to the full of one of nature's most lovely scenes. So I leave it and pass on through Higham, where on a big wall is the grandest lot of ivy in bloom I have seen this year. As I get towards Hallfield gate, the view extends in the other direction over South Wingfield, right down the Amber valley to where it joins the Derwent at Ambergate, and the view ends on the distant hills around Heage and Belper. I travel on till this ridge of a hill slopes out, and at South Wingfield I cross over the Amber by the watermill, where the first turn to the right takes me back up the Amber valley. A great part of Derbyshire is fenced in with stone walls, but here along this valley on one of the most winding of lanes—for in the three miles I went on it I never could see 100 yards ahead—are hedges, but there was beauty even in the leaves of the hedges, which comprised maple (and where are there more shades of colour in autumn than among maple leaves) hazels, thorn and other plants, with here and there a few hips, which showed there had been a few dog-roses in the summertime. As I travel on I see mushrooms growing in the fields, and then I come to Brackenfield church, where, when I went round that lane last, January 30, the churchyard was about white over with snowdrops. It seems all grass fields along here till I get to Wooley, where a man named Flint used to keep bees. When his friend Jack Stone went to see him, he says, "Jack, come an' have a look at t' bees, lad." Jack says, "No fear: they sting." "Well," he says, "they don't sting a Flint." "Ah, an' I'll take care they don't sting a Stone either." But Wooley certainly is an ideal place for bees; there is a continuance of bloom from damson right on through fruit, hawthorne, sycamore, charlock, clover and blackberry. There is a fall from the hills on two sides of them, one of which is very steep. I have to climb to get out of it. As I free wheel down to Stretton station I pass Mr. Cotes' apiary of Dutch bees. He seems to think they know best how to work in skeps, for, having several swarms from one hive at spring, he has hived them in skeps. He has also a W.B.C. hive painted like a house, and it is remarkable the amount of people in different places who have asked me if I have seen that hive.

Then another climb up Stretton Hill, and I regain the road back into Clay Cross just as the lights begin to twinkle at the windows, and the sun has gone down, leaving the sky all aglow, as it has done many a time this autumn. I reckon there have been some of the most glorious sunrises and sunsets these last few months I ever knew.—TOM SLEIGHT.

November 6.

Locality in Bee-Keeping.

I take it that my heading embraces the whole area covered by the bees in their flight while hunting for water, pollen, propolis, and nectar. With the hives as a centre, that would mean a radius of from two to four miles. The first area could be worked profitably, the latter less so, but frequently covering a wider circle the profit would dwindle down to all but the vanishing point. Later I will deal with a narrower area still, which I will designate location. In general most of the bee-keepers throughout the country are at the mercy of circumstances in regard to both, so we have to make the best of what fate assigns us. A locality here in the north where the bee forage consists mainly of clover and heather flows, with a few small minor yields such as early willows, thrown in, may be considered as from fairly good to good. Should plane or sycamores be present in numbers in May, with fruit blossom abundant in late spring, with lime trees yielding copiously the last week of July and the first of August, in a good season we may set that locality down as a good one, or perhaps *very good*. Particularly is this so if an abundance of flowering trees, bushes or shrubs, wild mustard, with a wealth of honey yielding wild and garden flowers. Over very large areas heaths and heather, in almost limitless areas, are plentiful. Some tracts of these are rich and bountiful in their yields of nectar from these glorious plants, but great stretches, owing to the dry and arid soil, grow scrub plants, and produce very scant supplies of heather or heath honey.

As above implied, if the forage grounds are near the apiary, better prospects and a more bountiful harvest may be reckoned on. Larger returns are secured if the hives are in a valley, with a more or less gentle ascending flight to the higher grounds, because then, when home-coming heavily laden, bees can ply their homeward flight with less effort. The prevailing winds have to be studied. If they blow fairly steady from the foraging fields towards the homes of the bees, heavier loads can be carried with less expenditure of tissue, and in a shorter time.

Bees, too, finding the task an easier one, will cover a wider area than they would if circumstances were adverse.

If one has a choice of locality it would pay much better over a series of years if there were several successive flows of almost secondary importance, rather one or two limitless sources. Take as an example heather nectar. Here we have leagues and leagues of heather; but, for the last three seasons, weather has been impropituous, and consequently the surplus takes have been scant, or, in some cases, meagre in the extreme. A prolonged yield from the clover fields is almost a certainty year after year. A short and broken yield from over 1,000 lime trees, with even a wealth of bloom, may be counted on as fairly certain two seasons out of five, but a really profuse yield is uncertain oftener than one year out of five. Here is our mainstay; several sources, one of which is pretty certain to yield well if one should fail, and the other gives about half a crop.

The bee-keeper should know his locality thoroughly; he cannot know too well the whole area embraced in the full range of his bees' flight. On account of this perfect knowledge of the whole surroundings some apiarists may succeed where others fail, because their knowledge enables them to adopt methods more perfectly adapted to the peculiarities of their countryside. In changing their locality to something new and different, even the veteran must leave behind him many of his old notions and methods, and seek advice of his new neighbours who have been successful in their different surroundings. This is well known to agriculturists who leave their farms in one county for holdings in a distant part of the country. If this is true for agriculture, as it is, much more is it correct for apiculture. Even the class of bee one has sworn by all his life may have to be discarded in the new locality, with its different climate, its changed dates for the full flow, and especially its bee forage, which may yield an entirely different class of surplus honey.

The physical environment of any apiary must have a very marked effect on the total honey production, especially in such a season as we have had last summer and autumn. Only about twenty miles away in a neighbouring county there is an excellent bee district containing some very successful bee-keepers. This year, 1921, owing to the prolonged drought burning up their crop of white clover they had a very light crop of that class of honey. Indeed, swarms had to be fed in lovely weather to preserve them alive. Here with a heavier soil the surplus take was decidedly good, and swarms, early and later, did excellently. At a lower elevation there is a large area of agricultural land light and sandy. In a drought season it can be seen that forage must fail at an early date, and generally there with the disappearance of clover the honey season may be said to end. Above almost everything else, therefore, a bee-keeper should know his location, and, if possible, chose one that will give as long a harvest as can be procured, with several sources of income.

In Canada and the United States there are some famous localities, such as that possessed by the late Alexander, Delanson, and that owned by Macintyre, California, where 1,000 hives could be kept in one centre. Even there one who knows the Continent well says he finds "imperfection, or a limit to perfection, everywhere." The sage region is a bee-keeper's paradise, if the sage yielded every year, but it does not. The alfalfa region yields magnificently at times, but frequently months of bloom will not produce an equivalent of what weeks will do in other localities. The mesquite of Texas is a freak, and the mangrove of Florida only yields when conditions are right. Therefore, more reliable surplus takes are got in the clover regions of the Northern States and Canada, because, although they do not furnish at times the enormous crops of California, etc., there is a stability about this source that is far more valuable and dependable, so that in the long run the yield equals, if it does not excel, those other much boomed regions.

D. M. Macdonald.

A Visit to North Devon.

On October 27 I paid a visit to Ilfracombe, North Devon, the home of the honey bee. Although late in the evening when we arrived, we were met by Mr. Finch, St. Bannocks Road Apiary, where we had the honour of spending eight of my most happy days, for home and comfort it is A1. Tea had already been prepared by the good lady of the house, but we were soon talking bees, and Mrs. Finch had to call Mr. F. away, as she said "they want their tea." Next day I was not long in discovering I was among some of the most lovely pictorial scenery I ever visited, also a splendid bee district, for there was plenty of clover in bloom, also wild sage, the gorse was lovely to look upon, also Escheloma, a flowering shrub with both pink and white flowers, but the white is the best. All these the bees were busy working upon, also the blackberry. We gathered some lovely raspberries from Mr. F.'s garden. The following day we paid a visit to Braunton, the apiary of Mr. E. T. Williams, the hon. secretary of the N. Devon B.K.A. This person I found to be a most enthusiastic gentleman. After a most hearty welcome and a little bee talk, he showed us into his honey room to see all the good things he had. Unfortunately, the gentleman had the misfortune to have an accident, and had been unable to extract all his honey, fortunately for us, for we saw some of the most lovely combs to be extracted, both in quality of honey and whiteness of capping, and produced by one of Penna's queens. Of course, I had to ask him to book me one of her daughters. The next thing was to see his extractor in action. It was made to order, taking three combs.

It would extract both sides, without reversing, and worked by electricity. After this we paid a visit to Mr. Tucker's apiary. There we found everything in perfect order. We now returned to Mr. Williams, where the good lady had provided all the good things for tea, including Devonshire cream and honey. The cream was for spreading on one's bread, and honey. I believe our secretary, Mr. W. H. H., knows something of the beauty spot, Braunton. I understand Braunton is free from the "Isle of Wight" disease. We were escorted by Mr. and Mrs. Williams to the station, having spent a most enjoyable afternoon. Our next visit was to another lovely spot, Combemartin. Here, I understand, they are not free of the "Isle of Wight" disease. We also paid a visit to Mr. Richards, of Ilfracombe, who showed us some lovely honey. All these have had a most successful season. There is not much heather, but just enough bell heather, at Ilfracombe and Braunton to give it a splendid flavour. On the top of Cairne, about 800 ft. above sea level, the bees were as busy as in the valley. Not having visited all the beauty spots, we hope (my wife and self) to pay another visit.

E. Fox (October 20, page 490) writes of bees in Jersey, admitting St. Peter's Valley is a nice place, but not a bee district, and I am afraid had E. F. caught Mr. Matthews at home he would not have obtained much information—at least, that was my experience, and I returned rather disappointed from my visit to the St. Peter's Valley Apiary. I was there in July last year, 1920. I tried to get a sample of extracted honey, but was told "We have none left." "Have you any sections," I asked. "No; we sell it in the long frames." "Then," I said, "will you let me have one of those"; but the reply was still "We have none left." Neither was I permitted to go near the hives.

Re Mr. Richards' lecture, B.B.J., November 3, page 510, he would have a "Craft Guild," preliminary being "junior craftsmen," the intermediate "craftsmen," and the final being "bee masters." My experience gives me great objection to this, for I have seen many bee masters whose education would not have permitted them to take the intermediate; nevertheless they *were* bee masters. On the other hand, I have seen the would-be bee masters unfit to handle bees. Many first-class experts are clergymen and schoolmasters; their education permits them to lecture, but much of their knowledge is theoretical, and not practical. I have seen fine lecturers almost kill their bees with smoke. I have seen many uneducated men who would put them to shame, so after 35 years I am still a "junior craftsman."

Derby. J. PEARMAN.

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of October, 1921, was £6,535.—From a return furnished by the Statistical Office, H.M. Customs

British Bee-Keepers' Association.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, November 17, 1921.

Mr. W. F. Reid presided, and there were also present Miss M. D. Sillar, Messrs. F. W. Watts, J. B. Lamb, E. Walker, A. Richards, G. J. Flashman, G. R. Alder, G. Bryden, and J. Herrod-Hempsall. Association representatives: Lady Katherine Bouverie (Salisbury), Messrs. R. R. Babbage (Middlesex), E. J. Waldock and W. E. Hamlin (Surrey).

The minutes of the previous meeting were read and confirmed.

Letters of regret at inability to attend were read from Messrs. T. W. Cowan, A. J. Blakeman, W. H. Simms, Sir Ernest Spencer, Rev. J. Morley-Davies, Rev. E. F. Hemming, and Rev. E. J. Bartlett.

Messrs. T. Gordon & Sons were elected members.

The report of the Finance Committee was presented by Mr. Bryden, who stated that receipts for October were £32 3s. 7d. The balance on October 31 being £148 5s. 3d.

Payments amounting to £20 were recommended.

The King's Lynn Association nominated Mr. F. Woods as their representative, and the same was accepted.

The matter of the International Conference of Bee-Keepers was considered. It was resolved that the Secretary obtain all particulars with a view to the Association taking part therein.

As the Rev. E. J. Bartlett was unable to be present, or to send his suggestions in writing, it was resolved that the matter be left to be dealt with at some future date.

The matter of a bee-keeper's badge was considered, and it was resolved that no action be taken.

The matter of the Nation's Food Exhibition at Olympia in 1922 and the British Empire Exhibition in 1923 was considered. The Hon. Secretary was instructed to obtain full particulars with a view to the Association taking part therein.

It was unanimously resolved that an illuminated address and a presentation be made to Mr. T. W. Cowan at the next annual meeting in recognition of his long and valuable services to bee-keeping, and that a subscription list be opened forthwith in the columns of THE BRITISH BEE JOURNAL. Also that secretaries of Associations be asked to co-operate in the matter.

Correspondence was read from the Kent and the Manchester and District Associations, and the Secretary was instructed to deal therewith.

Next meeting of the Council, December 15, at 23, Bedford Street, Strand.

Presentation to Mr. T. W. Cowan.

At a Council meeting held Nov. 17, 1921, it was unanimously resolved that at the annual meeting in March, 1922, an illuminated address and presentation should be made to Mr. T. W. Cowan, as an appreciation of his

long and valuable services to the craft. These are so well known that a reiteration of them here would be superfluous.

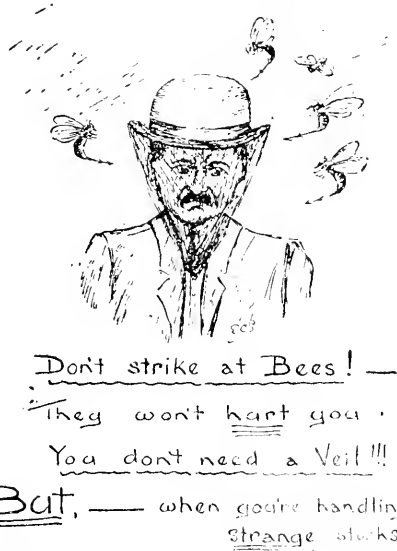
The idea at first was that this should be confined to the members of the British Bee-Keepers' Association, but it was felt that all bee-keepers in the British Islands would like to participate. So, instead of keeping the matter secret from him, it was unanimously resolved that a list be opened forthwith in the columns of THE BRITISH BEE JOURNAL.

I shall, therefore, be pleased to receive and acknowledge all subscriptions sent to me. It must be clearly understood that subscribers' appreciations are not gauged by the *amount* sent, and even the humble penny of those who cannot afford more will be as significant as the larger cheque of those in more affluent circumstances.

Secretaries of Associations are asked to co-operate in the matter by collecting from their members, so that the presentation may be worthy of the occasion.

The time is short, so that a speedy response is desirable.

W. HERROD-HEMPSALL,
Hon. Secretary, British Bee-Keepers' Association, 23, Bedford Street, Strand, London, W.C.2.



Honey Show at Beverley.

A show of bee produce arranged by the Beverley and District Bee-keepers' Association in connection with the Beverley Chrysanthemum Exhibition was held on November 17. Though there were only three classes, all of which were open, the display was exceptionally good, even better, so the judge, Mr. F. Boyes, said, than is sometimes seen at the Yorkshire Agricultural Show. The awards were as follows:—

Sections: 1st, Mr. A. E. Warren, Bletchley; 2nd, Mr. W. J. Algar, Lockington; commended, Mr. H. Chapman, Beverley.

Extracted Honey: 1st, Mr. W. Shuker, Hale, Liverpool; 2nd, Mr. A. E. Warren; commended, Mr. Chapman.

Beeswax: 1st, Miss M. Simpson, Leven; 2nd, Mr. J. Lindsay, Arnside; commended, Mrs. G. Scott, Brandesburton. — T. T. TAYLOR, Hon. Secretary, 137, Keldgate, Beverley.

Warwickshire Bee-Keepers' Association.

The expert (Mr. Leedham) of the Warwickshire Bee-keepers' Association is giving a lecture on "The Modern Methods of Bee-keeping" at the Technical School, Leamington, at 7 p.m., November 29.

E. A.

Questions, &c., for Bee-Keepers for Self-Examination.

593. Give a list of the sources of nectar the flavour of the honeys from which is rank, pungent, bitter or otherwise inferior.

594. How can an observation hive with bees in it be placed at a honey show to secure comfort to the bees and safety to the visitors?

595. What advantages and disadvantages may follow from the use of a hive without supers, but containing, say, 26 standard frames in the brood box?

596. Describe briefly the various contrivances which have been used for the spacing of frames in a hive.

597. What should be the width of each of the openings in a queen excluder?

598. In what (several) respects does a drone differ from a worker-bee?

599. What exactly should be understood as the meaning of the word *hatching?*

600. What difficulties may a bee-keeper expect to meet with who lives in a town, and keeps his bees in the country, say, four miles distant, and how may he overcome or minimise them?

J. L. B.

Trainload of Bees.

PART OF GERMAN REPARATION PAYMENT.

Belgium and France are anxiously watching the progress of a train which has left Hanover with 23,000 swarms of bees on board, as should there be an accident the work of rescuing the bees would probably prove difficult.

Unlike horses, cows and pigs, bees do not figure by name in the Peace Treaty, but in the Reparations Clause it was provided that articles to be restored to the Allies should be listed 60 days after the coming into force of the Treaty. The bees were included in the list. A second consignment is to be sent early next year.—From the *Westminster Gazette*, Nov. 14, 1921.

Do Bees Varnish Cells?

[10572] In his very ineresting article on the Swiss B.K.A.s, Mr. Illingworth asks (p. 514) for the meaning of "Punktierkurs." This may be translated "marking course." The bee-keepers who attend it are taught how to assign points to a stock for nectar-gathering, non-swarming disposition, good temper, colour, etc. The stocks that gain highest marks are used to breed from. The "Punktierkurs," in fact, teaches the methods of selection on which the Swiss "race-breeding" is based.

With regard to Mr. Stich's belief (p. 528) that the bees varnish the cell after the young bee has left it, this appears to be correct. Moreover, Dr. Brunnich, writing in the October *Tidsskrift for Biarl* (the organ of the Danish B.K.A.), states that he has proved this varnish to consist of *wax*. If this be the case, there is much to be said (if the Editors will forgive me for saying so) for Mr. Stich's contention that honey stored in such cells is clean. Wax being impervious to honey, the latter does not come into contact with the undesirable matters beneath the wax layer.

In passing, does the larvæ really "throw up its stomach"? The fore and hind intestines are cast with the skin; the refuse being enabled to pass out of the stomach by the temporary opening of the passage into the hind-intestine (according to Dr. Zander's latest work). But the stomach-lining, originating from a different embryonic layer than that which forms the skin and intestine-linings, is surely not cast?

I am much interested to hear that Mr. Hemming has seen drones sleeping in flowers (p. 511), or, indeed, visiting them at all. One always understood they never did so. As regards his classification of drones, is he sure that some at least of the difference in behaviour and temperament is not due to the age of the drone? Newly-emerged drones are immature, I believe, for some days.—ANNIE D. BETTS.

Appeal for an Old Bee-Keeper.

[10573] I should like to thank you for your kindness in printing the appeal for Thomas Jellings, and also at the same time thank the friends who responded with help and letters of sympathy.

There were eleven letters and amounts sent totalling £6 1s. 6d.

Since the old man has had nourishing food he is better; much better than he or the doctor thought possible. This shows that it was really mal-nutrition from which he was suffering, and that it had been going on for a long time there is no doubt, as they had been *managing to pay their way on* 14*s. per week.*

If those who have sent could see his gratitude, I am sure they would feel amply repaid, and could those who did not send have seen they would then wish to share in bearing his burden.

I have enough in hand now to give him 10s. a week till Christmas and a little extra for Christmas week.

Two wrote that they will help again later if need should become great, and one of these I know has not too much of this world's goods.

Should any now feel like sending I shall be only too glad to hand it to him.

Again thanking you, Mr. Editor and friends.

The following is the list of initials of helpers :—

	£	s.	d.
Anon.	0	10	6
G. C. T.	1	0	0
W. F. S. C.	1	0	0
T. L.	0	5	0
J. B.	0	7	6
M. T. ... (further help promised)	1	1	0
Anon.	0	2	6
South Ascot ..... (direct to him)	0	5	0
Ll. T. K.	0	10	0
Anon. ..... (direct to him)	0	10	0
C. W. P. ...(further help promised	0	10	0
	£6	1	6

SPENCER S. STOVELL,
St. Dunstan's, Stoke Green, Coventry.

Does Bee-Keeping Pay?

[10574] I thought perhaps you would like to hear from one who lives in Yorkshire, reads your JOURNAL weekly, and is always very interested; no notes seem ever to come your way from here. "Does Bee-keeping Pay," has sort of stirred me up, and I give you an account of what my bees have done.

From one very good Melton queen I have got 10 good stocks and 200 lbs. of honey during 1921. This is how it was done.

I started to feed this stock rapidly, gave it about 15 lbs. sugar liquid, and a frame of granulated sugar—(Candy?—EDS.)—early spring. By the first week in May it had 20 standard combs of food and brood.

I then removed the queen, and five combs of brood and food, with bees, to another position. The combs and bees that were left were also removed to another stand to form an artificial swarm, to receive a queen from Mr. Simmins.

I then placed a drawn-out comb in the centre of my own queen's brood, to enable me to get some eggs to give to the moved lot to form queen cells. In about three days I had a comb filled with eggs. I gave this to the queenless lot. They started at once to form cells, and when they were capped I formed four nuclei. The nucleus left gave me a small swarm. I gave to this swarm 4 lbs. dry sugar; after this feed no more was required.

The young queens in the nuclei all busy laying by June 8.

Towards the end of June the old queen came out of her hive with a 6-lb. swarm,

after again building up 20 standard combs and filling one rack of sections.

The 6-lb. swarm again built up to 30 standard combs, one box of shallow combs, and 24 sections (21 sections saleable), the other three not quite finished.

The hive they swarmed out of was divided to form three nuclei.

During these manipulations drawn comb only was used. From the hive swarmed I took 69 lbs. honey after forming nuclei, and from the swarm I took 131 lbs., total, 200 lbs. — F. MASON, Melton Apiary, Willerby.

Late Swarms.

[10575] My brother, a beginner in bee-keeping, writing to me a few days ago, says: "I have got about 30lb. heather honey, all unsealed, as both hives swarmed just before the weather broke at the end of September."

This is in Cumberland. Is not this most extraordinary? I could understand one hive bringing off a freak coup of this kind, but two hives! I thought this would interest you.—ED. CH. FISHER

[There have been a number of late swarms this year, due to the abnormal weather we have had.—EDS.]

Palestine "Bees."

[10576] In reference to 10480 and 10481, I enclose cutting taken from the *Gloucestershire Echo*, which may be of interest.—JACK L. TICKELL.

"BEE WINE."

To the Editor of *The Echo*.

SIR,—For the benefit of total abstainers, excise officers, and whomsoever it may concern, I call attention to the fact that an alcoholic liquor bearing the above name is being brewed in a small amateur way in some of our poorest houses, and the practice seems to be spreading. A mystery and superstition also surrounds the process which is surprising in these days of universal education, when it might be thought that everyone had some idea of the effects of fermentation upon starch and sugar. The sample brought to me consisted of a fine yellow liquor with a sediment of whitish lumps, some floating by reason of the gas bubbles which they enmeshed. The microscope showed this solid material to consist chiefly of yeast cells. The mess I examined had an odour of dough, and yeast for the purpose could be variously derived from fresh fermented dough, from brewer's barm, or dry German yeast: also, no doubt, from fermenting honey, or even from the bodies of bees, and this last-mentioned fact may possibly account for the name "bee wine." The practice is to place the leaven with water in some vessel and "feed it with sugar or treacle, when it grows like anything." It is this faculty of free increase which gives it mystery in the eyes of the ignorant, and causes it to be handed from one to another as a most friendly offering. Superstition requires a great many "musn'ts" in connection with the brew, some of which, connected with temperature, sunlight, etc., are well recognised scientific requirements with brewers and wine makers. —J. H. GARRETT, Medical Officer of Health

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One Penny per Word.

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FOR SALE, Stock of Golden Italians, on 9 frames in well-made Hive, body thick, one-piece floorboard, no legs, young Queen, plenty of bees and stores, 85s., carriage paid; also 11-frame Stock of Anglo-Italian Hybrids in serviceable old hive, plenty stores, same price; by return.—W. HOPPER, Kidlington, Oxon. v.60

HONEY.—Finest Bedfordshire, in 28-lb. tins, £2 per tin; carriage paid on two tins; tins free. —COBB, 33, Hitchin Street, Biggleswade, Beds. v.61

ONE spare fertile young Queen, 1921, 8s.; one Taylor's Colonial Hive, made up, new, unused, 28s.—ARMITAGE, Psalter Lane, Sheffield. v.62

40 WHITE LEGHORN PULLETS, 297-egg strain, 6½ months, getting rosy, magnificent healthy lot from two years' parents, 16s. each; six carriage paid.—FLOWER, Whaddon Farm, Owslebury, Winchester. v.63

SPLENDID light Cambridgeshire Honey, 14-lb. tins, 1s. 6d. lb.; tins returnable.—SMYTH, Coldharbour, Ashwell, Herts. r.v.65

CHRISTMAS PRESENTS. — Pure Berkshire Honey, 7-lb. tins, 13s., carriage paid.—DR. BELL, Lambourn, Berks. v.66

GOOD Glazier's Diamond, perfect, 8s. 9d.; Silver Sugar Basin, 38s. 6d.—HUBBARD, Northkilworth, Rugby. v.67

"WILLOW-HERB."—Plant for 1922; 12 roots, 2s. 6d.—BOWEN, Apiarist, Cheltenham. v.75

FINEST ENGLISH HONEY, sample 6d.— NORTH, White Notley, Witham, Essex. v.76

BEESWAX, 17 lbs.—Offers requested, ½-lb. cakes. Platform Scale, with scoop, weighs to 2 cwt. on platform, 21s., carriage paid; good condition.—FLOWER, Owslebury, Winchester. v.64

GUARANTEED absolutely pure Light Cambridge Honey, 13-lb. tins, 18s.; 28-lb. tins, 39s.; carriage paid; sample 4d.—J. YOUNGER, 16, Maid's Causeway, Cambridge. v.77

PURE excellent Somerset Honey, 1s. 6d. per lb.—WYATT, Bishopswood, Chard. r.v.40

FOR SALE, six Simmins' Double Conqueror Hives, with section racks in supers, in very good condition, £5 each; also 200 ½-lb. Glass Screw-top Jars for £2.—E. R. DEBENHAM, Bladen Apiaries, Dorchester. r.v.1

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1½d. per word.

QUEEN BREEDERS.—Benton Pattern Mailing Cages, 5s. dozen, 30s. 100; sample 6d.—TICKELL. r.v.68

SOFT CANDY.—6 lbs., 7s. 6d.; 10 lbs., 10s. 6d.; post free.—TICKELL, Westbourne Apiary, Cheltenham. r.v.69

FAMOUS COTSWOLD QUEENS.—Send your 1922 requirements to BOWEN, Commercial Queen Breeder, Cheltenham. v.70

INCOMPARABLE SOFT CANDY, ideal for winter feeding, 7 lbs., 8s.; 10 lbs., 11s.—BOWEN. v.71

SUPERB COTSWOLD HONEY, jars or bulk; samples.—BOWEN. v.72

SUGAR Boiling Thermometers, 5s. each, carriage paid.—"CANDY," 37, Suffolk Street, Birmingham. r.v.74

CANNELL, Breeder of choice Italian Queens, Aux Sièyes, par Digne, B.A., France.—A square deal, a fair price, a fine Queen. Prolific, young, well-bred Italian Queens of choicest stock delivered by registered mail, in perfect condition, within the week you select. I guarantee satisfaction or a new queen. Send a postcard to-day for my early order discount price list, and save money. Better queens than mine cannot be reared at any price.—CANNELL, Breeder of choice Italian Queens, Aux Sièyes, par Digne, B.A., France. r.v.75

WHY?—Italian Bees are comparatively immune to mite attacks. Why? We have condensed our answer into 25 words, which we shall publish in these columns December 15. To the sender of a similar and as short a solution received by December 10 we will present a 6-lb. parcel of Flavine—S Bee Candy or one of our choice May, 1922, Italian Queen Bees.—S. H. SMITH, 30, Maid's Causeway, Cambridge. v.78

THE ACARINE 1921 ECLIPSE PAD.—It knocks out mites and moths. By return post, 5s., post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. v.79

FLAVINE—S BEE CANDY, made in Cambridge and the wrappers bear our name. 4 lbs., 5s.; 6 lbs., 8s.; 10 lbs., 12s.; 20 lbs., 22s.; all post and carriage paid. Larger quantities at special rates.—S. H. SMITH, 30, Maid's Causeway, Cambridge. v.80

HONEY.—Finest Australian, two 60-lb. tins, 58s.; one 60-lb. tin, 30s.; finest West Indian "Melta" Honey, two tins, about 60 lbs., 73s.; one tin, 56 lbs., 40s.; four tins, each 7 lbs., 24s.; delivered free any railway station in Great Britain. Immediat delivery.—LONDON TRADING AGENCY, 32, St. Mary Axe, E.C.3. v.59

HEATHER HONEY for Sale, in small or large quantities.—PEARSON & GALE, Marlborough. r.v.51

ADMINSON'S SEMI-COMBS.—We can supply Nuclei on these Combs from mid-May onwards at cheapest rates.—PEARSON & GALE, Marlborough. r.v.51

CAN YOU BEAT IT?—During 1921 we sold nearly seven hundred Stocks and two thousand Queens. Next year we hope to do still better.—PEARSON & GALE, Marlborough. v.29

CEILING RACK for drying and airing clothes; simple to fix, and very useful, especially during winter weather; price, complete, with instructions for fixing, 6 ft., 5s. 9d.; 7 ft., 6s. 3d.; 8 ft., 8s.; carriage paid.—BURTT, Manufacturer, Gloucester. v.33

BOOK NOW.—Choicest Carniolan Queens for 1922.—PEARSON & GALE, Marlborough. r.v.10

FINEST ENGLISH HONEY, in 28-lb. cans, 1s. 6d. per lb.; cans and carriage free.—PEARSON & GALE, Marlborough. r.14

YOU wouldn't "swop" a Masheath for any two other hives. r.t.62

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A Brotherhood of Bee-Keepers.

Since the above was first mentioned by Lt. Col. Kettlewell in the "B.B.J." for May 12, we have received a number of communications on the subject. The idea appealed strongly to us, and in the meantime we have discussed it with various bee-keepers, most of whom are also in favour of a "Brotherhood" being formed. We have had the matter constantly in mind, but we felt that before we made any definite move in the matter the Council of the B.B.K.A. should first have an opportunity of considering it. This opportunity occurred at the last meeting of the Council, when, as stated in the report of the meeting in the "B.B.J." last week, after some discussion it was decided not to take any action. The feeling of the meeting, which we shared, was that if the B.B.K.A. issued a badge it would naturally be practically confined to that body and its affiliated county and district associations, whereas it should be open to every bee-keeper in the United Kingdom to join and to wear the badge. This decision of the Council leaves us free to try and inaugurate a "Brotherhood of Bee-keepers." We have no intention of starting another Association or Club, as the B.B.K.A. and its affiliated County and District Associations and the Apis Club already provide all that is needed in that direction. The idea of the Brotherhood is to provide some means whereby bee-keepers may recognise each other as such, and be a means of introduction and mutual help, a bond between bee-keepers of all classes, carrying the already recognised "freemasonry" of bee-keeping a step further.

Our own idea is that there should be no entry fee or subscription, the purchase of a badge and undertaking to observe a few simple rules being all that is necessary to constitute a member.

We shall be pleased to have the further views of our readers on the subject, also suggestions for a few rules and a design for a badge. The badge should be distinctive, also easily recognisable as referring to bee-keeping, and to this end the design should not be too complicated. In our opinion a worker bee or bees, either alone, or in some conventinal design, would be the most suitable; but as we are by no means good at designing, we leave that to more capable hands.

Notice.

Will subscribers kindly bear in mind that the post-free subscription to THE BRITISH BEE JOURNAL is now 13s. per annum, not 10s. 10d.? This is due to the increase in postage last June.

Owing to an oversight the price of subscription on the order forms sent out with notice of expiry of subscription last week was not corrected.

A number of subscribers have written protesting that we have made a mistake in the date of expiry of their subscriptions. We published the following notice in the JOURNAL of June 23 :—

THE NEW POSTAL RATES.

Those of our readers who have their BRITISH BEE JOURNAL by post would notice last week that the postage was a penny, the Postmaster-General having decided to impose —that is the right word—another halfpenny on the postage of postcards and printed matter up to 1 oz. in weight. This will raise the post-free subscription of THE BRITISH BEE JOURNAL to 13s. and THE RECORD to 3s. per annum. The price of the papers remains the same. Subscribers may either send remittance to cover the extra postage or we will adjust the date of expiry of subscriptions paid to meet the new conditions.

Many subscribers have not sent the amount for extra postage, which from June 16 to the end of year is 1s. 2½d., this is equivalent to five weeks' subscription, and the date of expiry in those cases has therefore been put back the five weeks. We hope when the next Budget is under consideration by the Government that the postage on printed matter will be again reduced to a halfpenny.

A Dorset Yarn.

Last week I wrote of bees and the juice of apples. Mr. Garret, of Broadstone, interested me with a story of a near neighbour of his who made strawberry jam which fermented and soaked the paper covers. While he was in church on the Sunday morning his bees found their way into the larder in thousands to steal the fermenting strawberries. When bees are robbing each other they are not in the best of tempers, but these were happy and contented. They were getting something sweet and moist; the alcohol must have made them too sweet-tempered to sting. It must have been the strong smell of the fermenting strawberries and sugar that attracted them; but this was summer, when flowers were at their best, "the leafy month of June."

In the old times someone at an entertainment told the story of ducks that had eaten brandied cherries thrown away after the bursting of the large jar they were stored in; the effects of alcohol on the ducks was to make them sleep. But these bees

worked all the harder to clear it up, while the owner was at church. He had to throw it (the jam) out, as so many bees had got into the liquid. This was the bees' salvation, as, thrown out on the ground, other bees cleaned the sticky jam off their little carcases and they were able to breathe again. As all bee-keepers know, bees have the respiratory organs in the segments of the abdomen. If these are closed the bee must die. There are openings in the sides of the body called "spiracles." Certain muscles control these openings, admitting air to the tracheæ, or minute thread-like tubes. 'Tis said the spiracles are their organs of sound, but I am not clever enough to assert it: but on summer nights when honey is coming in fast the hive roars with glad humming from thousands of bees, which comes from somewhere in the bee. If it does not come from the mouth, it must come from somewhere, and it must be where air enters their little carcases and fills them with oxygen. How there can be oxygen in that heated atmosphere is beyond my comprehension; but the loud hum is there both night and day—but I am digressing. As I previously wrote, throwing them out was the bees' salvation; they all came to life again after they were well cleaned. Whether they grew wiser after immersion is doubtful. It may be part of their self-denying spirit that some should plunge in so that others should alight on their little carcases and get the liquid sought for. I have read (many years ago) of the ants who throw themselves into water and so form a bridge with their bodies to let others get across to the other side. Greater love have none than those that give their lives for friends. Still digressing; but why should bees have this depraved taste? In autumn, when food is scarce, the juice of apples, pears, and raspberries might be legitimate, but in June, when all the land is gay with flowers, that they should steal fermenting strawberries and sugar is beyond the Dorset Yarner. If such were stored in sections, what effect would it have on such as myself who have no use for alcohol? (It certainly had no effect on the bees.)

The "B.B.J." writers on county associations are voicing what many of us hear, how many members have "paid their subscription but do not get any help from the association." We want to spread bee-keepers everywhere, as so much honey is wasted for the lack of bees to harvest it. It seems to me it is only by co-operation one can increase the number of bee-keepers. One of our East Dorset experts has visited 48 members, all in the busy bee season. In some of these visits he has done what the member could have done at better advantage to himself. Many members do not take advantage of the knowledge they possess of the honey flow in each locality. The expert is called *when a rack of sections is full, and bees have filled the spaces between the brood box and the outer case*, the owner not having put on more racks to harvest the surplus. The expert is the link that keeps all members in touch with the association.—J. J. KETTLE.

Jottings from Huntingdonshire

This week I must devote my remarks to those who have written me with regard to my articles on drone bees and those of the past two weeks. Nor can I ignore Miss Annie Betts, whose devoted scientific investigations are of unfailing interest, and who is one of the soundest bee-women engaged in modern apiculture. With regard to drones sleeping in flowers. Like the average bee-keeper, I once thought this a Maeterlinck fiction, and have, in giving addresses on bees, repudiated the idea. I now wish to beg that writer's pardon. I have learnt that he was right. Like the average Englishman, I am not in a hurry to dispel preconceived ideas—this is a most unfortunate trait in our character as it limits investigation. I stumbled upon the truth quite by accident. It was some two years and a half ago that I had just dispatched a swarm of bees by rail and called at the nearest telegraph office to notify the addressee by wire, when the postmaster, after reading the telegram and dispatching it, began a conversation on bees. He, it appeared, was a bee-keeper of some years' experience, and was bemoaning the fact that some native drones were—to use his own words—nosing about in his flower-garden and he feared lest they should have with them the germ of disease. I gently tried to reprove him, but sang low when he took me and showed me quite half a dozen drones among the Stars of Bethlehem and the Canterbury Bells. Needless to say, I kept an observant eye on my own drones after this, and have since seen many drones mooning about and some half asleep (does a drone bee ever really sleep?) among the flowers. Someone writes me to say that drones, by reason of their weight, cannot fly more than a few yards at a time. This is nonsense. Who hasn't chased a swarm for a mile or so, and, if lucky enough to catch it settling, seen the drones of the swarm looking less tired than the worker bees? (Now please, dear readers, do not write and ask me how I am able to detect tired bees!) Miss Betts asks, with regard to the classification of drones, if I am sure that some at least of the difference in the behaviour and temperament is not due to the age of the drone. Age of drones must be taken into account, but it won't explain all, as close observation and testing will show.

To get back to beginners. I am asked if it is not best for novices to start with a skep of bees and learn something of the ways of bees before investing in bar-frame hives. A thousand times, no! Leave skepped stocks alone until you feel fairly capable in the realms of apiature. Another writes to say that 20 years ago he commenced bee-keeping by putting swarms into margarine boxes, and had ten such stocks before purchasing a bar-frame hive. Bees, he goes on to say, have been kept in boxes or skeps, or some such house, for thousands of years, so

there can't be much wrong with the method. That is begging the whole question. The point is, there is a better way, and movable combs are that "better way."

For thousands of years men fought with spears, axes, slings and arrows. Hateful as war is, it would be folly to enter a battle with no more modern weapons. Never mind what our forefathers did if you want to start bee-keeping. When you have tested yourself, whether or no your enthusiasm for apiculture is lasting, growing keener as the years pass, is the time to dive into the past, classify, and compare. Yes, I keep a few bees in skeps, but—and here I note with satisfaction our editors agree with me—keeping a skep stock year after year is the utmost folly. Two years in one skep before cleansing is the limit. Now, I have referred to the editors, let me say that I thought everybody who reads periodicals was aware that editors do not hold themselves responsible for the views published in their columns. Not once, nor twice, have correspondents remarked when taking me to task for some view expressed in these jottings, "I am surprised the editor agrees with you, which he evidently does, or he would not allow your views to be printed." True, those who have written to me in this strain belong to the "terrorists," but they ought to know better. One would think, judging from the letters of these gentlemen, that I, and presumably friends Kettle, Bowen, Sleight, and all the host of "B.B.J." contributors, met the junior editor periodically in his office and received from him instructions as to what we should or should not say. The idea is so ridiculous that I should have continued to ignore it had not a good beeman, for whom I have great respect, asked me if this was so—he had heard something of the kind stated. What a pity it is that such an educating, edifying, uplifting, soul-inspiring craft as apiculture cannot be free from venom! I will leave the matter there for the present, and I sincerely hope for always. The November mists enwrap the earth with a hazy shroud. The great resplendent orb which gives to us the light of day and plunges us into the dark shadows of the night is finding it difficult to pierce the gloom. The wild wind is hushed and the breezes stilled and Nature sleeps. The glories of the autumn are past. How beautiful summer looked this year when she clothed herself in the garments of death! We are treading near the threshold of winter now, and when the valley of the shadow is passed, forth will come the aconites and snowdrops, accompanied by the tuning notes of the thrush; crocuses and daffodils follow in their train, flowers of winter yet harbingers of spring. The queens bestir themselves within the hives, the hazel catkins appear, and, lo, we look and behold young bees appear. But that time is not yet. Nature must sleep a little longer—not the sleep of death, but the sleep of rest and inward growth. When she awakes her morning garments will be all yellow and white.

E. F. Hemming,
Steeple Gidding.

Two Apiaries—A Contrast.

For some time I have intended to give to your readers an account of a visit I made to the Apis Club about a year ago.

At that time the above Club was in its infancy, and I fancied that at Benson I was going to find a person well smitten with bee fever, carrying out all sorts of foolish operations with bees.

From these vain thoughts I was soon to be aroused, for instead I saw an apiary of considerable size, nicely arranged, with over 60 stocks devoted to commercial bee-keeping, while other stocks were set aside for teaching and experimental work.

To make a long story short, I was delighted with all I saw, and I now offer my apologies to Dr. Abushâdy for any irreverent thoughts I had had of him before my visit.

My next visit was to the so-called experimental apiary of the School of Agriculture belonging to Cambridge University. Here, again, my ideas of what I should find were exploded. This time I was bitterly disappointed. I understand this place from its inception in 1918 has received considerable financial support from the Government, and is a glaring example of the usual wasteful and inefficient methods adopted by Government Departments. I expected to gain much information from the investigations and experiments carried out during the years it had been in existence, especially as I learnt that two people were engaged solely in this work.

However, I found that all that had been done was to keep a neat and tidy apiary and work an elaborate and costly electrical plant for testing hive temperature. Work that has been done most thoroughly by other investigators who had recorded it long ago. Information on matters vital to commercial bee-keeping was conspicuous by its absence. As an illustration, no attempt whatever had been made to test the utility or otherwise of the metal combs.

In such an apiary this should surely have been done long ago, and an unbiased report issued thereon. So far as I can ascertain no report whatever has been issued on any of the investigations which may have been carried out since the apiary has been in existence. Therefore one must conclude that nothing of any value has been done, so that the whole of the money spent has been wasted.

The director of the apiary told me he was crippled in his work by a controlling committee, who would not give him free scope for experimental work.

If this is correct it is a disgrace. Be this as it may, there seems to me to be great need for improvement. The small plot of land allowed for the apiary, which contained about 30 stocks, is about large enough to accommodate six lots, and certainly would not give credit to any county apiary, much less one belonging to such an institution as Cambridge School of Agriculture.

The site chosen is an undesirable one, being a square plot of land, with no trees for shade, and enclosed on the north and east sides by buildings. Up to the walls of the latter a lean to shed has been built, which comprises the store room and office, scarcely wide

enough for two persons to pass each other, while along the side of the barn, which is made of tarred boards, a verandah of corrugated iron has been erected, under which stand colonies of bees, the whole arrangement making a splendid sun trap. Being placed in such a position, with the corrugated iron roof exposed all day long to the rays of the sun from the south and west, must be most uncomfortable for those that have to work therein, let alone the fact that the bees in the hives must be pretty near baked. Not only so, but the heat reflected from the buildings and iron roofs upon the hives crowded in front must make it most uncomfortable for the operator and the bees.

As an illustration of how not to arrange an apiary site it is excellent. Experiments carried out under such abnormal conditions are worse than useless. Surely near Cambridge a site in an orchard with fruit trees for shade and beauty could have been found for this work. This would have allowed more scope for development and the experimental work expected from such an apiary.—J. PRICE, Stafford.

Notes from Gretna Green.

Immune Bees.—It is not generally recognised that pure Italian bees obtained from Italy are entirely free from *Tarsonemus woodi*. As already mentioned in these columns, all queens received by me from Mr. S. H. Smith have produced immune colonies that cannot be infected, even although they rob out diseased hives. I note that Mr. Smith is going to tell the reason why. Personally, I should credit this immunity to the conditions under which the queens were reared. I hold no brief for the Italian bee, and am certain that our native bees if reared under similar conditions would be equally immune.

This would necessitate the rearing of queens on more natural lines, and with a view to *quality* rather than *quantity*. Also, the mating of these queens to *equally select unrelated drones in an isolated mating station where only the select drones are allowed to fly.*

Verboten.—What can be the "good and sufficient reasons" (page 549) for excommunicating an old-time correspondent of the "B.B.J."? The old bee-master introduced winter candy-feeding, and got queen bees accepted by the Post Office as mailable matter. He first showed how to stamp out foul brood, and made many discoveries for which the B.B.K.A. never gave him any credit.

Explanation.—As a matter of fact I anticipated the editorial advice on page 549, and consulted "Webster" before writing. There may be a subtle distinction, but as the dictionary extract indicates medical men are not agreed on the matter, and "who will decide where doctors disagree?" Apart from this, I must repeat that my inquiry referred to the distinction drawn between the two words "in relation to Isle of Wight disease." On page 536 the Editor's footnote states that "Acarine disease is *contagious;* it is very doubtful if it is *infectious.*" Yet on page 545 our Editor builds up the whole case for legislation on this disease being infectious—contagion is not even mentioned from beginning to end of the editorial.

If there is uncertainty as to Acarine disease being infectious, how can there be any certainty that legislation is required? I cannot see how these conflicting views and statements are to be reconciled. — J. M. ELLIS.

[*Verboten.*—We have nothing further to add. Mr. Ellis appears to be quite incapable of understanding or appreciating the fact that an Editor may and must use his discretion as to what he publishes, including names.

Explanations.—As legislation for bee diseases is not meant to deal with only *one* disease, but is intended to apply to any, or all diseases, both infectious and contagious, it would perhaps have been better to use both words. The Editorial was not dealing with the need for legislation as applied to any particular disease, but with the question of whether legislation or education was the best method of combating diseases. Acarine, or "I.O.W." disease, was not mentioned. Read it through again, Mr. Ellis, for your last paragraph is a quibble.—EDS.]

Jottings.

The Season's Review.—Never, I suppose, do bee-keepers remember such a season of curious records, early hopes for the most part fizzled out, leaving us hoping for the showers to put things instantly right. Never do I remember bees so easy to manage without swarms in spite of the heat. I had a swarm catcher on three weeks, where the brood chamber was known to be brood-clogged. This may have shaded a little, or *does the quietus placed on the merry drone hum alter conditions and inspirations.* Anyhow, nothing resulted, and the bees worked merrily on to the third super, and secured ample stores for winter consumption. I have had good takes from two small lots, hardly worth keeping, so the books says, as they barely covered three combs at the end of April. They were fed practically from above combs, as they possessed very little stores, but the season favoured, of course, and when once they turned the corner expansion was both automatic and pleasant to watch, and they reached concert pitch just at the right time.

My box colony, mentioned some time ago, I might have taken after all, as they built out ten combs with stores, but on disturbance the queen popped up, so I put the job off, and there they are now, as she promptly made herself at home there again, and I was too bee-weary to tackle them again this year. Have promised myself this job in spring if all goes well, when bee-itis is defined and acquired in its more zealous and redounding relation to rejuvenated nature. These creatures were fed above nearly all the

winter, and came up like so many tame birds through a small hole bored in the top, with the best of goodwill, to either candy or syrup, but now when more independent they have sealed this up with a monster lid, they must know something.

Page 545. *Educate to Legislation.*—I hope, Mr. Editor, you will forgive me if I pervert your title to this article, as only in this order can we hope to win the fruits of progress, whether to combat disease, distrust or failure to "volunteer." As an ordered state of affairs seems desirable let us approach it in an orderly manner; in other words, let the people whose business this is arrange a plan whereby the bee population may have a sporting chance to thrive. As we have interfered with the natural state in which it pleased God to place them, we must adopt human methods of securing a code of management under a system of "law and order" for all.

I am not quite sure whether Mr. Whyte's suggestion is a call for volunteers to educate, or a league to eventually make disease impossible by knowledge, there seems only one way to rope us all in, with a specialised attempt to a specific case of disease, by a specialist with the aid of the movable comb-hive.

Page 552.—There is an enormous amount of thought in Mr. Pearman's concluding remarks; it seems desirable at this time of the consideration of these certificates whether the aspiring bee-keeping should not be compelled to furnish some proof of capability in management of a hive, if only in the first instance to his local association, which is generally only too pleased to teach, therefore, competent to certify. Also to recommend for the higher stages, and should provide a centre of study for those able to compete. I, too, found this desirable. My first attempt I hardly knew what I had to do, much less prepare.—A. H HAMSHAR.

Questions, &c, for Bee-Keepers for Self-Examination.

601. Explain the saying, "Once a robber always a robber," as applied to bees.

602. What are the merits of the New Annual Sweet Clover from the point of view of a bee-keeper and of a fodder grower?

603. Comment on the practice of supplying meal to bees as a substitute for pollen.

604. What has been estimated to be the amount of food consumed by a colony of bees during a year?

605. State some of the evils which result from over-manipulation.

606. How far and in what respect is quality of honey an index of skill in the bee-keeper?

607. How is the production of nectar influenced or affected by (1) a dry season and (2) a wet season?

608. How may young bees be distinguished from old bees when they are entering or leaving the hive?

J. L. B.

Bee-Keeping in Staffordshire.

The last of a course of six lectures, held in the Boys' Central School, Lichfield, was given on Saturday, Nov. 26th. The lectures, which were on "Practical Bee-keeping," were organised by the Sub-committee for Agricultural Education, Staffs Education Committee; the lecturer was Mr. J. Price, the county bee expert. The course was as follows:—

1. Hives.—Principles of construction, management, use of appliances, etc.
2. Frame-making.—Fixing, wiring and embedding of foundation.
3. Beeswax.—Extracting, bleaching, and cleaning; wax adulterants.
4. Management.—Swarming, prevention of, uniting, nuclei making, and feeding.
5. Honey.—Its constituent properties, preparing for market, distinguishing sources, and adulteration.
6. The Honey Bee.—Characteristics of different varieties, selection of races of bees for the British Isles, treatment for bee diseases and pests.

The whole course was well attended, and proved interesting and instructive to both experienced bee-keepers and novices alike, owing to the masterly manner in which the lecturer dealt with his subjects, and his readiness to reply to the many questions put to him, in response to his invitation, after each lecture. The demonstration he gave in lecture No. 2—making and wiring a brood frame—held the novice spellbound, and caused the "old hands" to sit up and think, at the same time proving that good frames can be easily made with very few tools and inexpensive timber.

At the close, a vote of thanks was passed unanimously to Mr. Price for his services.

E. J.

Echoes from The Hives.

Generally the "takings" of honey in this neighbourhood have been very good during the past season.

Personally I have had no cause to complain, each stock averaging about 1½ cwts.

At present the bees appear to me to be far too active, every stock flying daily, rain or otherwise: consequently scores become numbed with the cold and wet and die within easy reach of home

Now, Mr. Editor, will you kindly give me your observations on the following:—

Suppose you have samples of granulated honeys, not necessarily from the same neighbourhood. One granulation has the appearance of white granules, each little granule apparently separate in itself and yet forming a solid mass, and the other granulation is a solid mass, but having the appearance and colour as of butchers' dripping and equally as solid.

Both honeys are of excellent quality, and yet why the difference in the process of granulation? Also, is it possible to obtain a very highly-coloured wax from clover honey cappings, and if not (excluding heather), from what source would a colour

resembling saffron (watered) or deep orange emanate?

I should be deeply grateful if either you or some successful reader would explain the process, naturally, I mean, without "faking."

A. D. BENNETT,
Redruth, Cornwall.

[Re difference in granulation, we do not know.

You will most likely get a light-coloured wax from the clover honey cappings. A yellow wax is obtained when sainfoin or charlock are the sources of the honey. The highly-coloured wax you have seen is probably of foreign origin. Much of that from Abyssinia, France, Turkey, etc., is an orange colour.—EDS.]

Cambridge & District Bee-Keepers' Association.

A Conversazione in connection with the above Association was held on November 19, 1921, when a goodly number of bee-keepers took advantage of the kind invitation of Mr. and Mrs. C. F. Clay to meet at Upton House, Cambridge, to compare notes on the results of the past season.

The meeting was well attended by representatives of the craft from Cambridge and the surrounding villages, and the results reported were very varied, the district to the south of Cambridge appearing to have done best. Bees built up early and gathered a considerable surplus from the first crops of sainfoin which is freely grown in that neighbourhood. In the eastern division the bees did not do so well in the early summer. One member reported that, owing to the scarcity arising out of the prolonged drought, he had been obliged to feed his bees to the extent of half a ton of sugar, until the rain came, when they were able to gather about a ton of honey. He also reported that there was a sharp frost in mid-July which checked the flow for some time. In the immediate neighbourhood of the town of Cambridge scarcity also prevailed: the lime trees were little frequented, and feeding to avoid starvation was the general rule. In October, and even in November, late crops of mustard provided nectar and pollen. Bees were observed bringing in pollen from mustard as late as November 15, but, nevertheless, winter stores were already being used up rather rapidly.

One member, who has aimed at producing a race of bees capable of working red clover, reported that this year his bees had worked the first crops freely, but it was thought that this was possibly due to the season, which may have caused the red clover to secrete more nectar than usual. It will be interesting to hear whether these bees are able to work this particular crop so freely in a more normal year. Another member had observed bees working lucerne this season, which is rather unusual. The comparative merits of "Blacks and Italians" were touched upon by several speakers, and on the whole "Hybrids" seemed to be most favoured. The Black bee, it was suggested, is of a more thrifty habit; it stores a surplus so soon as an opportunity offers, and keeps it, whereas the Italian uses up any surplus it may secure in rapid breeding. If the flow ceases the Italian is left without stores, whereas the Black bee has supplies sufficient to carry it over a time of scarcity. In a prolonged flow, however, the Italian is not checked, and gathers a larger crop than the Black. The hybrid, perhaps, has the virtues of both parents, and is possibly better suited than the Italian to our climate.

Several cases of difficulty in introducing Italian queens were mentioned, and one member, who had imported twelve queens from America, had the misfortune to lose ten of them in transit and the remaining two shortly afterwards. Disease is less prevalent than in recent years, and certainly less virulent. Whereas it was a common experience for a whole apiary to succumb in a single season, it seldom happens now that more than a small proportion of stocks is lost.

Generally speaking, swarms were less numerous in 1921 than in 1920, which was a great swarming year, but experience varied greatly, and in some districts the number of swarms was excessive.

The question as to whether it is fair to use "decoy" hives to attract stray swarms was discussed, and strong opinions on both sides were very freely expressed. Perhaps the feeling of the meeting may be expressed by saying: (1) That the practice should only be adopted by careful bee-keepers, who see to it that their decoy combs are clean; and (2) that swarms are not likely to be enticed from their legitimate owner if he is careful to supply them with a comb of honey or brood, when the swarm is not likely to desert him.

Before the meeting tea was offered by Mr. and Mrs. Clay, and the proceedings closed with a very hearty vote of thanks to them for the happy and profitable time spent at Upton House.

Dr C. G. L. Wolf acted as chairman.—E. C. R. HOLLOWAY, Hon. Sec.

[*Re* bees working the first crop of red clover, a probable explanation is that owing to the drought the heads were not so large as usual. No information on this point is given, and would be useful.—EDS.]

Doncaster & District Bee-Keepers' Association.

The second of our winter meetings was held at Messrs. Parkinson's Café, Doncaster, on Wednesday, November 16, The meeting, as usual, began with tea, a most enjoyable meal when everybody at your table is a keen bee-keeper. After the meal we listened to a most interesting lecture from Mr. Joseph Price, the Staffordshire County expert, who kindly came up to Doncaster for the express purpose of giving us information. Before entering upon his subject, which was the "Characteristics of Different Races of Bees Useful for the British Bee-keeper," he prefaced his remarks by saying that he admired the lines upon which we were working.

Our Association is only a small one of about 50 members, but he saw that we were making it one of our chief aims to *learn* all there is to know, both on the practical

and scientific sides, about bee-keeping. He then explained the chief characteristics of the Carniolan, Dutch, Italian, American Golden and English bees, and advocated the selection of a race in the future made up of a cross between the best of the English and the best of the Italian, so as to bring into prominence hardiness against disease, fertility in the queen, and hard-working powers in the workers. To accomplish this would be by no means easy, but he hoped for a good result in the future which would promote the success of bee-keeping in England more than anything else.

W. YATE ALLEN, hon. secretary.

Warwick Bee-Keepers' Association.

From time to time I have noticed the reports, etc., from the various bee associations in which we read of the success or failure of the experiments and trials attempted in bee culture, but I cannot understand why the Warwicks B.K.A. remains so much in oblivion.

I have had the "B.B.J." for many years now—in fact I have a pile of them, and, unless my memory is at fault, only once have I seen anything emanating from the W.B.K.A., except show reports. It may be that it issues its reports, etc., in other journals with which I am not acquainted. If this is so I should be pleased to know the name of the journal in which they are published.

It was my intention to be a member of the above association some years ago, but I thought I would "wait and see" what it was doing, and, so far as I am aware, it has added nothing brilliant to its credit—this last few years, at any rate.

This district is well supplied with bees; in a radius of one mile there are from 30 to 40 stocks of bees belonging to various owners, and I very much doubt if those owners are members of the W.B.K.A., although the secretary lives in their midst, I personally do not know him.

The stocks mentioned include British, Carniolans, Dutch, Italians, British-Italians, Dutch-Italians, etc., so it will tax the mental powers of those owners to keep their stocks pure if it is their desire to do so.

Dorridge Apiary. E. W. JONES.

Bees in Scotland.

The following cutting from the *Glasgow Evening News*, of November 23, has been sent by a Scottish reader :—

SHETLAND AS PURE BREEDING CENTRE.

Owing to the difficulty experienced in obtaining a pure strain of the native black bee, the Scottish Board of Agriculture has established a stock in Shetland, far from all other stocks, for experimental purposes. In course of time it is hoped that Shetland may become a source whence pure, vigorous queens can be obtained to re-queen British hives.

The Scottish bee census up to March 31 last gives a total of 8,500 bee-keepers, with 28,070 hives. In Aberdeen there is one bee keeper to every 117 inhabitants, and in Shetland one to 28,000 inhabitants.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

"Fact and Fable."

[10577] I have been much interested in the controversy going on in your columns under the above heading, and would like to give you my experience this summer with robber bees. Perhaps I had better give a brief account of the hive in question, as it may be of help in forming conclusions.

On July 23 I took a couple of combs from an observatory hive and placed them in an ordinary hive. On September 3 I united with these a strong lot of driven bees. Both lots were carefully syringed at the time of uniting, and apparently settled quite amicably together.

Soon after this date, however, I noticed a large number of very small, hairless, shiny black bees making attempts to enter the hive.

You may remember that I sent some of these bees to your office for examination, and your opinion was that they were Dutch bees with a trace of Italian blood in them.

Their method of attack was quite different to that of the ordinary robber bee. There was no attempt at "dodging" or sneaking into the hive, but they were most persistent, and mingled with the other bees and attempted to pass freely into the hive, always without success, so far as I could observe.

Frequently I have noticed one on the alighting board, surrounded by four or five of the others, busily engaging their attention without actually fighting. Is it possible they were removing the hairs from the body preparatory to making it an outcast?

On one occasion the hive was closed in the evening for twenty-four hours, and on reopening between twenty and thirty of these dead, quaint "robber" bees were turned out. Now, it is hardly likely that so many robbers should have gained admittance through an entrance of only one bee-way into a very strong hive very much on the *qui vive*.

I may say that during this period my bees were all away at the moors, and though there were one or two hives in the district, none having bees of the description I have given.

In the light of Mr. Stich's article I am very much inclined to think that the so-called "robber" bees belonged to my own hive, and that the driven bees, being much the stronger lot, had determined to clear out the original inhabitants. Indeed, that conclusion had been almost forced on my mind before I had the pleasure of reading Mr. Stich's account.

Last year I had another curious experience with my bees. After they had returned from

the moors, and I had removed all the full sections, I replaced the half-filled ones for the bees to clean up. This they did most effectively, taking down not only the honey, but the cells and cell walls, leaving only the bare foundation. My neighbours' hives were treated in exactly the same way. Is this a common experience? I have not seen it mentioned recently in the JOURNAL.

If you can find room in your valuable paper and think the matter of sufficient interest, I shall be pleased if you will kindly insert it. J. H. NICHOLSON.

November 14, 1921.

British v. Foreign Honey.

[10578] On reading the advertisements in last week's BRITISH BEE JOURNAL I see finest English honey offered at eight pounds per cwt.; then in the business advertisements I read finest Australian honey at sixpence per pound. No wonder the British bee-keeper cannot sell his honey. We all know that there is no comparison of the imported honey with British. Why should it be sold without being labelled as imported honey?

I was at the Royal Counties Show this year, and in the honey tent there was a sample bottle of thirty tons of Australian honey. I handed the bottle to one of the finest judges of honey in the kingdom, and asked him what it was. He smelt it, and, I believe, tasted it, and then he said, "It is gum."

Now, if this is the stuff that we British bee-keepers have to be undersold by, the sooner it is labelled as such I think it will be the better.

No grocer or dairyman is allowed to sell margarine unless it is labelled as such. Why should imported honey be allowed to be sold without the label?

When I have been in town I have often called at shops that have honey to sell and offered them honey. When I have told them my price is 1s. 6d. per lb. they say, "We sell ours at 10½d." "But," I say, "yours is *foreign*." They say, "It's *honey*." And if the people can get honey for 10½d. per lb., they will not pay 1s. 6d. to 2s. for it, which we should have to charge for yours.

Now I say that bee-keepers should wake up and urge their county council representative to bring up the matter at their council meetings, and then the county councils should ask the Government to make the labelling of imported honey compulsory. I happen to be a member of the Horticultural Sub-Committee of the Hants County Council, and I have already brought the matter before the committee, and they have written to the Government about it. But what we want is *all* the county councillors to take the matter up, and then we shall get something done in the right direction. Until I see the imported honey properly labelled I never shall feel that justice has been meted out to the British bee-keeper, who has worked so hard to keep the industry going since the "I.O.W." disease has been amongst them. S. G. SLOCOMB LEIGH,

Broughton, Hants.

Legislation v. Education.

[10579] I am honoured by your reprinting my article from *The Bee World* on "Legislation on Bee Diseases." This along with Mr. Hopkins' letter, seems to provide matter for you to "point a moral." I may say I am very glad to have this letter from Mr. Hopkins, as it gives me an opportunity to deal fully with New Zealand's experiences with legislation. We have, time and again, had this New Zealand Bill and what it had accomplished thrown at us. Personally, I felt that if this had done what was claimed for it, then all we had to do in the Old Country was to draft a Bill on the lines of this perfect Dominion one.

I may say I have dealt fairly exhaustively with this matter in a reply to Mr. Hopkins, which is appearing in the forthcoming *Bee World*. Meantime, the following extract from the report of the conference of New Zealand bee-keepers held at Christchurch, June 9, 10 and 11, 1920, is quite illuminating in view of the claims made by Mr. Hopkins.

". . . . It was unanimously agreed "——

"At a largely attended conference of bee-keepers of the Dominion, representative men stated in no uncertain terms that, of their own knowledge and personal experience, the Apiaries Act, as at present administered, has not accomplished the primary object for which it was placed upon the Statute Book."

Might I, in view of what Mr. Hopkins, the father of the New Zealand Bill, says as to the Acts in the U.S.A., that "they were never any good for suppressing disease," retort that the same remark appears to apply to *all* Bee Disease Acts the world over, *including* New Zealand?

However, I have dealt fully with the present *appalling* disease situation in New Zealand in my answer to Mr. Hopkins in *The Bee World*.—R. WHYTE.

[We have had the pleasure of conversing with several bee-keepers from New Zealand who have called at our office, and up to the present everyone has been of the same opinion as Mr. Hopkins. We do not say the New Zealand Apiaries Act is perfect. We do not know any Act of Parliament that is. The resolution quoted above does not condemn the *Act*, but *the manner in which it is administered*.—EDS.]

The Jersey Apiary.

[10580] On reading Mr Pearman's comments on my visit to St. Peter's Valley, I feel bound in fairness to Mr. Matthews to reply.

When photographing his apiary I undertook to send a photograph if it proved satisfactory. As, however, the picture was published in the "B.B.J." I sent him a copy instead. In due course I received a very courteous letter of thanks from Mr. Matthews expressing regret that he was not at home when I called, and hoping for better luck on a future occasion.

I also learned from his letter, among other details, that he works the Well's dual queen system, and makes his own foundation. So I was evidently more fortunate than Mr Pearman.—E. FOX.

Cruelty to Bees.

[10581] A short time ago I saw the wonderful moving pictures and heard a lecture on the honey bee at the Crystal Palace But what struck me most was the callous cruelty with which our little friends were handled. It may be very "inspiring" to hear that the operator did not mind getting 500 stings, but, for my part, in operations, whether slight or great, I always make it my aim to avoid killing a single bee. [This is also the aim of every bee-keeper worthy of the name.—EDS.] To see combs pulled out of a nest with force, banged about and roughly swept with a hard brush or painter's knife, is not the way to encourage would-be bee-keepers. As a lady who visits my garden and bees said, "The pictures were wonderful, but the handling of the bees completely cured me of any desire to keep them" There is the R.S.P.C.A. for animals, but if a tithe of the cruelty depicted in the pictures I saw were often inflicted on animals, the Society might have endless prosecutions. In one large operation alone I estimate that many hundreds of bees must have been wantonly mutilated and/or killed.

You have been asking "Does Bee-keeping Pay?" How does the following read, and is it fair to put down stock, etc., at 0? Hive was given me. Stock is from a stray swarm two years ago. Appliances, many years old, have been written off long ago. One hive only this year

Dr.

	£	s.	d.
Expenses, etc.:—			
Hive, stock, racks, etc. ...	0	0	0
Sections	0	5	9
Honey section and syrup in January	0	3	6
Syrup in September	0	16	0
Candy, just started	0	4	6
	1	8	6
Cr.			
60 fine section at 2s. 6d.?	7	16	0
Balance	£6	7	6

—F. K., November 1, 1921.

British v. Foreign Hives.

[10582] Britain for ever! Why not stick to a British industry now, calling through Great Britain? With due respect to America, their build is not a patch on the British make. There are many things sent here we can make better ourselves, far cheaper, and in reach of the poorer classes. I am enjoying an English make of goods that beats the American of the same sort to fits, and it's not a hive either! It is an important scientific article badly needed by many. No! no! Britain first these days if one is born with British blood. Lawkes! we will be buying German goods next, you might say.—C. TREDCROFT.

Compulsory Honey Grading.

"You've taught me a lesson. Never again will you find me taking honey out of the combs as fast as the bees put it in."

So said the first bee-keeper to be fined under the new Wisconsin honey-grading regulations, which have been in force since August, 1920. A representative of the Division of Markets had found sour and fermenting honey labelled "Wisconsin Number 1" on sale in a grocery store, and soon learned that the bee-keeper who supplied it was in the habit of extracting honey without waiting for it to ripen. He is probably not the first bee-keeper in the United States to be prosecuted for selling unripe and sour honey, but it was the first case brought for violation of a compulsory honey-grading law anywhere in the world.

The next case was more typical of violation of grades. Stacked up in a corner of a busy city grocery store were a dozen cases of comb honey all carefully labelled "Fancy White." Inspection showed uncapped and empty cells, occasional dirty sections, discoloration, and imperfect attachment to the wood. In other words, it was a typical mixture of fancy, Number 1 and Number 2 honey with a few sections which could not even be considered Number 2. Consumers were being asked to pay the highest market price, and the purchasers would go a long way to keep from buying "Wisconsin Fancy" honey in the future, if the sale continued. The marketing specialist visited the bee-keeper, who in this case proved to be belligerent, and insisted that his honey was as good as any. A warning was given, but the same condition was found a week later, and again a fine and costs resulted.

COMPULSORY GRADING PROTECTS THE BEE-KEEPING INDUSTRY.

These incidents represent different phases of the grading of agricultural products. In the first case, not only the man who sold the unripe honey, but every other bee-keeper who ever had occasion to sell extracted honey in that neighbourhood, would have been placed under a serious disadvantage if the honey had not been discovered and returned. Purchasers, grocers, and consumers alike, after losing faith in extracted honey, probably do not try it again for many years. The injustice to the consumer and to the distributor react against the whole extracted-honey business.

In the second instance, the damage to the reputation of comb honey was serious. Sections marked "Wisconsin Fancy—White" should be the finest food product from the standpoint of appearance, nutrition, and quality that the purchaser can buy, and should be as much of a delight to the eye,

in the grocery store and on the table, as they are later to the palate. Any sale which brings discredit on that label constitutes an injury to honey producers which it is hard to estimate.

For several reasons, compulsory grading of honey, cheese, potatoes, cabbages, and other farm products is being favourably received as a large-scale marketing experiment in Wisconsin. The producers here are as hard hit as those of other States by industrial depression and deflation and by falling prices. In anticipation of this condition, a division of markets was established in 1919 to assist in locating buyers, improving conditions of competition, and straightening out the channels of trade.

Sales of all kinds should be based on accurate descriptions of the material to be sold, especially where buyer and seller do not come face to face. This is the principle on which all the fruit packing of the orchard districts is based, and is the foundation on which they are developing a demand for standard qualities of fruit. One might as well expect to sell goods as first quality when that term is meaningless as to sell grain by the wagon-load instead of a legally-defined bushel. In other words, quality is as much a factor in price as quantity, and should be as capable of exact description. Bee-keepers believe honey can be accurately described, and that the meaning of the terms used should be legally defined. Nobody profits by a standard price for all sorts and grades, as a low-quality article not only fails to gain anything by being mixed with fancy goods, but brings everything down to its own level.

Work of the Division of Markets.

Most of the honey-grading work this season is, of course, educational. C. D. Adams, field agent of the Division of Markets, spends much of his time explaining the methods and standard of grading to grocers and bee-keepers, with the result that the half a dozen prosecutions have been incidental rather than the most important part of the work.

It is now only a year since work was begun on the grading problem in Wisconsin, and only six months since the grades went into effect. Since then, every container of extracted and every section of comb honey produced in Wisconsin has had to be marked with the grade or with the word "Ungraded." No small part of the task has been to carry information about that requirement to the 10,000 bee-keepers of the State. No lists of honey producers, either by the assessors, census-takers, or inspectors, are complete.

The first snag struck by the division administering the grading was what to do with the bottling industry. To supply a constant demand, wholesalers were mixing honey from all parts of the United States and selling it under all sorts of brands. An arrangement was finally made with them to follow the State regulation in grading pure Wisconsin honey, and to mark honey which was either blended or entirely from other sources with a statement to that effect.

Whether with justice or not, our bee-keepers consider Wisconsin clover and basswood honey just a little finer than anything else on the market. Bottlers need some of it because of the ease with which it may be prevented from granulation—especially as compared to the Western product, where it meets the stiffest competition. As a result, Wisconsin honey is almost always held at from three to five cents above the wholesale market price for honey from other parts of the United States. Even in this year of a dull market, nearly the entire supply of extracted honey (80 per cent.) had by January 1 been disposed of at an average wholesale price to the producer of 25.8 cents a pound, according to the U.S. Bureau of Crop Estimates. In other words, our bee-keepers think "Wisconsin" is just as big an asset to them as "Airline" is to the A.I. Root Company, and they intend to cash in on that asset if possible. If the primary purpose of the honey-grading regulations, then, is to provide for an accurate description of honey quality and finish, a second and equally important object is to advertise what we believe to be a particularly fine product.

Standardisation of Grades of Honey.

It is too soon to determine the ultimate effect of standardisation on the honey business. Large quantities are, of course, being sold "Ungraded," but this is a smaller proportion than was expected. Over 600 bee-keepers have secured grading stamps already, including all the larger commercial producers and many farmer bee-keepers.

Now and then I hear of little incidents which show how standardisation is taking among consumers. In one place a grocer was called over the 'phone one morning and given an order which concluded:

"Oh, yes—and I want a 5-lb. pail of honey. Have you any on hand?"

"Certainly, ma'am," and it was duly sent. Later in the day the pail came back unopened.

"What's the matter?" asked the grocer.

"It's marked 'Ungraded,' and I want 'No. 1.' If it isn't the first quality we can't use it," was the answer. And nothing the grocer could say convinced this customer that if the bee-keeper produced "No. 1" extracted honey he would neglect to label it so.

I have not touched on the details of the grades, but a word will suffice for that. All extracted honey which is well strained and fully ripened so that it weighs 12 lbs. to the gallon is known as Grade No. 1 Extracted. In addition, the colour, net weight, and packer's registered number are required on the container. Comb honey is divided into Fancy, No. 1, and No. 2, depending on the finish, the attachment to the wood, the number of uncapped cells, etc. It is also marked with the colour, and with the packer's number.

A standing committee of the State Bee-keepers' Association is working with the marketing division for the perfection of the standards and the successful administration of the law. If it were practicable, many of the best bee-keepers would like to see the source of honey required as part of the label,

and the colour omitted. But so much of the State's product is mixed, that few bee-keepers know exactly where their bees are getting nectar from day to day. Nor is there an adequate chemical means of discovering whether honey really came from the plants the bee-keeper says it did. The greatest variation in quality is in the amber honeys, which are sometimes excellent and occasionally very unsatisfactory.

While compulsory grading is still in a somewhat experimental stage, there is no movement in opposition to the system as a whole, nor any suggestion of abandoning it. When, before the State meeting, rumours of an anticipated grading debate spread, county associations began passing resolutions favouring the grades, and instructing their delegates to support them. Wisconsin bee-keepers believe that standardisation will be the biggest help in the present rapid commercialisation of the honey industry, as it has already proven a most important factor in the organisation of a large co-operative company to improve honey distribution. But that is another story.

—"Gleanings in Bee Culture."

Madison, Wis.

Notices to Correspondents

C. P. T. (Wallasey).—*Using fermented honey.*—If fermentation is only slight the honey may be heated in a water bath to about 150 deg. Fahr. for 10 or 15 minutes, and when cold may be used for eating or other domestic purposes. If too far gone for this treatment, use it for making mead or vinegar.

M. A. (Padstow).—*Procuring Marmite.*—Your grocer should be able to get this for you. A 2-oz. jar costs 10d. In colour and flavour it resembles "Bovril," but is thicker. It is made by the Marmite Food Extract Co., Mincing Lane House, Eastcheap, London, E.C.3.

G. B. (Luton).—*Transferring bees.*—(1) You can transfer from British standard to another size by placing the present brood chamber with bees and combs over another one containing frames of the desired size fitted with foundation, next spring. Make the junction bee tight, and as soon as the new combs contain brood, confine the queen to them by inserting a queen excluder between the boxes. The original combs may be left until all the brood in them has emerged, or dealt with in any other manner you desire. (2) An artificial swarm may be made in the usual way. As soon as the present hive is crowded with bees and contains drones, take a comb of brood and bees on which the queen is found and place in the new hive. There should be no great difficulty in doing this with a British standard frame in a Dadant hive. Fill up with the larger frames fitted with foundation, then place the new hive on the stand where the old stock stood, removing this to another location. This should be done on a warm day when bees are flying freely. The old bees on the wing will return to the old location and form the swarm. When the new combs are built out the one from the old stock may be taken out. (3) Try Mr. W. P. Meadows, Syston, Leicester.

Suspected Disease.

K. M. J. (Stourbridge).—The comb contained virulent foul brood

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CAN any reader send me J. T. Burgess & Son's Catalogue for 1921?—J. E. SAUNDERS, 3, Well Lane, Willerby, near Hull. v.102

MICROSCOPE by Armstrong, coarse and fine adjustments, high power, two objectives, mahogany case, with drawer for slides, forceps, etc.; a gift at £4. Photo, stamp.—WOOD, Woodbine House, Dalbeattie, Scotland. v.101

LANCASHIRE BEE-KEEPERS' ASSOCIATION.—Wanted, for about eight weeks, commencing early in April next, a Touring Expert.—Application, with testimonials and stating terms, to be sent to J. WILDMAN, Hon. Secretary, Forton, Garstang. v.82

HIVES (W.B.C.), with and without Bees, healthy and clean; also quantity of Accessories. State wants; all cheap.—NEWMAN, 327, Wanstead Park Road, Ilford. v.83

3 CWT. finest English Honey in 56-lb. tins, granulated, £7 per cwt., carriage paid; tins and crates returnable; sample 6d.—F. CLARK, Southop, Lechlade, Glos. v.84

PURE Light Shropshire Honey, 1s. 6d. per lb. in 28-lb. tins, carriage paid; sample 6d.—T. TUDOR, JUNR., 20, Spring Cottage, Little Drayton, Salop. v.85

THOROUGHLY ripened pure light Cambridgeshire Honey, 2 cwts., £7 per cwt.; carriage paid 100 miles; 28-lb. tins, free.—ADAMS, Southfields, Newmarket, Cambs. v.86

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QUEENS. — PRYOR Breachwood Green, Welwyn. r.v.89

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SOFT CANDY.—6 lbs., 7s. 6d.; 10 lbs., 10s. 6d.; post free.—TICKELL, Westbourne Apiary, Cheltenham. r.v.69

SUGAR Boiling Thermometers, 5s. each, carriage paid.—"CANDY," 37, Suffolk Street, Birmingham. r.v.74

CANNELL, Breeder of choice Italian Queens, Aux Sièyes, par Digne, B.A., France.—A square deal, a fair price, a fine Queen. Prolific, young, well-bred Italian Queens of choicest stock delivered by registered mail, in perfect condition, within the week you select. I guarantee satisfaction or a new queen. Send a postcard to-day for my early order discount price list, and save money. Better queens than mine cannot be reared at any price.—CANNELL, Breeder of choice Italian Queens, Aux Sièyes, par Digne, B.A., France. r.v.75

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Hubam, or Annual Sweet Clover.

Many bee-keepers and others still confound Hubam with the ordinary sweet clover, which is a *biennial*. Hubam is an *annual*. The following extracts from a brochure sent in by the E. G. Lewis Seed Co. Media, Ill., Henderson County, U.S.A., may be useful, and help to make the difference clear. Hubam grows very rapidly, as we can testify, and an illustration of a plant is given that made a growth of almost 2 ft. in nine weeks: sowed April 15:—

ADVANTAGES OF HUBAM CLOVER

Makes a growth in one season that the common sweet clover requires two seasons. Hubam, or white annual sweet clover, sowed in April grows to a height of from 5 to 7 ft. by September 1.

Can be seeded alone. We think this the best way until seed becomes more plentiful. Ames Agricultural College has Hubam growing under every condition.

Can be seeded with oats, and cut for a hay crop, or pastured during the summer, and ploughed under for a green manure crop in the fall.

Can be seeded alone broadcast. Can be seeded with oats, wheat or rye, the same as other clovers are sown.

Hubam seems to grow on practically any kind of soil.

When should Hubam be sown? At the same time as other clovers in the spring.

Does Hubam die in the fall? It does. Makes its full growth, seeds, and dies, and will come from volunteer seed, unless ploughed under the next spring.

How much Hubam should be seeded per acre? We think three or four pounds in rows and from eight to twelve pounds broadcast.

How should ground be prepared? Just like for corn planting, or in the very best condition you can get it.

On what kind of soil does Hubam grow? We have it on rich ground, medium fertility, with and without lime, on a clay hill where other crops do not grow, and also on sand. It has made a wonderful growth except on the sand. On the sand it only grew about 3 ft. high.

Does Hubam need inoculation? It should be. Use alfalfa soil, or dirt from the roots where biennial sweet clover has grown, or use a commercial inoculation. ..l are easy to use

Notice.

Will subscribers kindly bear in mind that the post-free subscription to THE BRITISH BEE JOURNAL is now 13s. per annum, not 10s. 10d.? This is due to the increase in postage last June.

A number of subscribers have written protesting that we have made a mistake in the date of expiry of their subscriptions. We published the following notice in the JOURNAL of June 23:—

THE NEW POSTAL RATES.

Those of our readers who have their BRITISH BEE JOURNAL by post would notice last week that the postage was a penny, the Postmaster-General having decided to impose —that is the right word—another halfpenny on the postage of postcards and printed matter up to 1 oz. in weight. This will raise the post-free subscription of THE BRITISH BEE JOURNAL to 13s. and THE RECORD to 3s. per annum. The price of the papers remains the same. Subscribers may either send remittance to cover the extra postage or we will adjust the date of expiry of subscriptions paid to meet the new conditions.

Many subscribers have not sent the amount for extra postage, which from June 16 to the end of year is 1s. 2½d., this is equivalent to five weeks' subscription, and the date of expiry in those cases has therefore been put back the five weeks. We hope when the next Budget is under consideration by the Government that the postage on printed matter will be again reduced to a halfpenny.

A Dorset Yarn.

A few years back I heard the Rev. George Stallworthy lecture at Poole on bees. He showed on the screen the different organs of bees many times magnified. He showed the hind leg of a worker with its wonderful mechanisms, the pincers for taking out wax scales; the corbicula, or pollen basket, with its wonderful hirsute appendages to keep fast the pollen after it is moulded on them. He made this plain, that he who would advance in knowledge of bees should read well in winter. After all this time one cannot but think how true his teaching was. One cannot go over a book with the anatomy of the bee, but the wonderful mechanisms of bees are impressed on the reader. The arrangement of brushes to clean off pollen, and load it from right to left and from left to right, so that each load on the corbicula should be equally balanced. Some books tell of how they go off home "on their way rejoicing," in that they have done good service to the community to which they belong. "Something accomplished, something done has earned a night's repose." But do they sleep? In the working days and nights of summer they seem never to sleep; they are happy in their labour for the welfare of the com-

munity. Tolstoy, the great Russian writer, said "The happiness of man is life." Am not sure if this is word perfect. He also adds that "life is labour." Bees show us how they only live to labour; their only pleasure in life is labour. They carry out the old teaching, "Work while it is yet day, for the night cometh when no man can work." They have only the bright, warm weather when they can work; it is then that they can gorge themselves with honey, and produce the wax that they must have to build the cells for their stores, and cradles for their young. They can only get the propolis to varnish and cement up the cracks and crevices in the time of young growth. The teaching of George Stallworthy, to read up well in winter, is good, sound teaching, even with those who are practical bee-keepers, for "knowledge is power." "Knowledge places man in that one path of life which, like a tunnel of conical form, goes on widening, and opens to him in the distance the indubitable eternity of life and its welfare for others." The brief life of the worker-bee is an object lesson to all mankind that "life is labour." It should teach him that "Man does not live to be worked *for*, but to work for others." The labour of the worker-bee is untiring; it is man's cupidity that takes out the queen cells, so that they should labour still more for surplus for his gain rather than waste time in perpetual swarming. It is not for me to advise what books to read during winter months. I have read all that come my way with great interest, but there are still many more I should like to read. My near neighbours have got the two fine works of Cheshire. This cost the three of them a good sum each, but their greater knowledge of the bee must make them more fluent in bee lore, as they lecture on the wonderful contrivances of the worker-bee. The correct names of the different mechanisms of the body and its appendages will add materially to their lectures, but the *practical* teaching in simple language seems the best for beginners. Get them on with the production of surplus honey, then their interest in the mechanisms of the bees will be an inducement to read up the deeper subjects. As the bee-keeper gains knowledge of bees, the better will he be able to teach others how simple it is to become a "bee master," or a bee expert. Many of us are termed "experts" when we are only practical bee-keepers, who gain knowledge by practical working with bees, and trying the different ways of honey production given by other writers in other countries.

The *Journal* has many interesting methods of honey production. I must lift my hat to Mr. Ellis, of Gretna, for his teaching of the dual queens in one hive for the production of section honey. I believe in the old couplet, "What man has done man can do." If he can work two queens at Gretna, we can in Dorset. I have written many times that bees will enter sections quicker when on seven and eight combs, than they will on the larger lot of 10 and 12. When once they have started the sections you can give them the extra bars; they will keep on filling the sections without a break; the difficulty is to start them in early May; but if the 12-frame hive with two queens, with only a divider of queen excluder zinc at the right time for surplus honey gathering, then the sections must be filled up sooner, also with greater numbers. I know that others will say that they have had as good results with one queen. Mr. Garret, of Broadstone, has worked 15 combs with one queen. The weight of honey has been prodigious. Squire Tomlinson, of Wimborne, has built his up with one queen till he had to stand on a box to look over the top; but two queens at the right time building up the population, the great heat of the 12 combs with the thousands of bees, must be an inducement to hurry on the sections.

The questions by Mr. Bishop, now many hundreds, were an education to me this last season. A lady pupil with me, of course, wanted to know the answers. I pointed to the books and told her to look. Some I could answer myself, but she looked it up and taught me. Yet she came to the Violet Farm to *learn* bees! It's a queer old world If Mr. Bishop's queries help my pupils and the "Dorset Yarner," then he has done good service to bee-keepers. Others beside us must want to know the correct answers, and in looking for them get more of the knowledge of bees.

J. J. KETTLE.

Jottings from Huntingdonshire

To begin well is half the battle against the difficulties of bee-keeping, and to begin with a determination to succeed is to show a spirit that is very welcome in beedom. No one can forecast the weather, nor the amount of bee pasturage available in one's district; but, let it be said, given an average season there are few rural districts in England where bee-keeping cannot be undertaken with every hope of profit. Beginners often ask, "Does bee-keeping pay?" and many people rush forward to say, "Yes," and others perhaps to say "No." There are people who make a good living, and there are people who supplement their living by producing bees and honey; on the other hand, there are people who lose heavily, and don't forget to advertise the fact, and that not always fairly. I have in mind a man who started as all beginners should start—modestly, and gradually increased his stocks until he had fifty. Year after year he produced honey, sold it, and invested the money in new hives and appliances, and was, undoubtedly, prospering in the craft. One season disease came along; he failed to check it, and at the end of that season saw his fifty colonies wiped out. Disheartened, he had not the pluck to try

again, but declaimed against *Apis mellifica* with some vehemence, and said he was sick of bees. A man came along and offered him ten pounds for all his hives, extractor, ripener and aught else. He foolishly took it, and then fell to bemoaning his loss; and although it is some years since he saw the last of his bees, even to-day he endeavours to discourage would-be apiarists. He pays me an occasional call, and apparently is vexed when he sees bees issuing from my hives. Really, I am beginning to wonder whether he is hoping death will reign supreme in my apiary one day that he may come and say, "I told you so."

This type of individual is not common, fortunately; but there are enough about to pour cold water on the ardour of prospective bee-keepers, especially the young. Analysed, their statements won't hold water. In the case I have mentioned, since all the hives and paraphernalia of his apiary had been bought out of honey profits, apart from his labour he was still £10 to the good; but he doesn't argue that way. Those hives, he says, cost him some £62, and appliances about £10—look at his loss! Quite so; but this is misleading. He worked bees in his spare time, got an amount of pleasure out of them, and saw the apiary grow without taxing his pockets; and, however stunning the loss of fifty stocks might be, he had all the material ready for commencing again. A blow lamp, a bonfire, new frames, foundation and quilts, a swarm or two, and he might have succeeded beyond his expectations. I hope no reader will imagine I think lightly of loss by disease—far from it. Every bee-lover experiences genuine mental suffering on hearing of a fellow bee-keeper's loss. Apart from the loss to the individual, there's that poignant sorrow when one reflects on the thousands of bees dead, when but for disease, they would have striven, till their strength gave out through senile decay, to carry on, leaving behind them young bees to perpetuate their species. So don't begin to entertain the idea of becoming an apiarist unless you are prepared to face and overcome obstacles, learning by mistakes, and using failures as stepping stones to success. It is useless for me or anyone else to write for beginners, unless some of those who begin are going to continue in the craft. Don't be too eager for great profits. Fabulous profits are not to be gained in apiculture. There are people who will go to the extreme and tell you, once started bee-keeping must be all profit. I often have this statement hurled at me, and by men of education who ought to know better. "You get a hive," they say, "and then some bees; the bees need no feeding but gather their own food and give the owner the surplus; they swarm, he increases his stocks or sells the swarm, profit, all profit." Sounds logical to a novice, but beware! Seasons may come along, surplus honey being nil, cost of feeding heavy. Begin well, begin carefully, and don't order the honey jars until you are pretty sure of the honey to put in them.—E. F. Hemming, Steeple Gidding.

North Cheshire Notes.

Bees Robbing Apple Trees.—This to me is a new experience. Have never seen them do so myself, but here we have two instances given. "R. T." (page 542) reports them robbing an apple tree in Northamptonshire, and Nov. 24 Mr. Kettle tells of his bees busy on the apples left on his trees. Like him, I have my doubts as to the keeping quality of such stores. Has any other reader noticed bees on apples this year? I have not, although my bees are close to a garden where both apples and pears were much visited by birds this autumn. I saw no bees among them, although there were plenty of wasps.

Queer Ideas.—What curious ideas some people get about bees! Recently a friend inquired of my wife if we did not find the bees sucked the *colour* out of the roses? On being told that they did not, but that this year the powerful sun bleached them, and many other flowers too, she replied: "Oh, no; it was not the sun, but the bees. If you keep bees in your garden you will find they suck the colour out of the flowers." I have never heard of this before. Has anyone else?

Useful information.—Query: What is the rate of increase among bees? Answer: If a bee-keeper started with 5,000 bees, he would hope, if his stock remained healthy, to have 50,000 descendants at the *end of five years.* This from a paper that caters for the young. One wonders who answered the question, and what race of bees increases at such a "prodigious" rate.

County Bee-keepers' Association. — The Rev. T. Alun Jones' remarks in "B.B.J.," November 17, are to the point. County associations do want to extend their activities in some such direction as indicated, if a scheme can be formulated. It is certainly worth discussing at early meetings. I believe I am a member of the same county Association as Mr. Jones, but unfortunately so situated that I have as yet been unable to attend any meetings.

Our local Horticultural Society at a recent meeting adopted honey classes for sections and extracted. Readers within eight miles of Appleton please note, and get ready to win prizes in August next.

D. J. Hemming.

Appleton, November 28

Black and Shiny Bees.

If back numbers of "B.B.J." of thirty odd years are searched, it will be found that such bees were found to be suffering from a disease, the bacillus causing it being named "Gaytoni," after a Miss Gayton, who was the discoverer of it, if I remember aright. Mr. Nicholson gives a very good description of what I experienced about that time with five or six stocks out of a dozen or so which I had on the heather the season before. In fact, all the stocks which had been on the heather were more or less affected. Twenty odd stocks which had remained at home were not affected in the slightest degree. On first spring examination I noticed that in all the

heather stocks the honey (not syrup, for they had not been fed, but all wintered on their own honey) was sweating, or weeping, as though fermenting under and through the cappings. I, of course, took away all combs I possibly could, leaving only those containing brood and honey. About half the twelve soon recovered, and did well during the season, but the others just dwindled on until bees enough only to keep queen going on one or two combs were left. They all recovered by end of the season, but during the height of it for weeks there were a number of "shiners" in and out of each stock every day. When covered down for winter they were only moderately strong colonies, but they came through all right, and did well season following. I saw no more "shiners" for about twenty years, and then I came across a stock which "had 'em bad" for several weeks, and then quite recovered. In that apiary there were fifty odd other stocks in none of which did I notice a single shiner, or "hairless one." I have seen as much robbing as most I fancy, but I have never seen a real "shiny" one at it. Harking back I thought at the time that the disease was caused by the fermented honey, and I think so still. When all the old honey was used up the "shiners" gradually disappeared.—ROBIN HOOD.

Bee-Keeping Near the Congo River.

A couple of years ago, in making a tour up the great Congo River on the western side of equatorial Africa, I received generous hospitality at one of the mission stations of the Baptist Missionary Society at a place called Yakusu, some 1,500 or more miles from the sea coast. Finding a number of wild bees there I suggested the cultivation of honey, and on my return I sent out a modern hive with full equipment. A letter has now come to hand, an extract from which may interest some of your readers. The writer is the Rev. C. E. Pugh, and he says:—

"I am sorry that I cannot report much progress as regards the bees. It was a very difficult matter to persuade them to take to the European hive. Eventually I got them to settle in by taking out the frames from the lower chamber. They were much happier then, and proceeded to make a lot of comb, which they fastened to the sides of the chamber. I removed all that (having first removed the bees), and then re-introduced them into the hive with the frames replaced in this lower chamber. They settled in quite well then, realising, I suppose, that it was their own place, but they have been driven to distraction by all sorts of insects. I have placed the hive upon a table, the legs of which stand always in water to keep the ants away, but this does not keep off the flying insects. These enter by the opening and by the ventilation places, the most numerous pest being a very hard wing-cage beetle which multiplied rapidly, and though I have often seen the bees attempt to sting them they never succeed in driving them out. Indeed, I don't think the wing-cage ever lets the sting enter the body of the beetle, it is too well armoured. Then a much smaller insect, a sort of tick with antennæ like the claws of a crab, worries the bees sadly. The worst enemies so far as the actual honey is concerned, are the Congo cockroaches. Periodically these loathsome insects get a flying mania, and once they settle near the hives they are inside in two-two's. But we shall overcome these difficulties, for the bees in their wild state protect themselves from these pests. I have examined a lot of wild comb, and found no traces of insects or their larvæ. When once we have got the 'hive consenting bee' in some numbers, we shall be able to go on *ad infinitum*."

Doubtless you know of bee-experts in foreign parts who have had similar trying experiences, and could offer some suggestions which would be helpful under the circumstances. I have wondered whether a European queen could be introduced with advantage into a tropical climate such as the Congo possesses, and if so, how far she would be likely to survive the journey there, which would take probably eight to ten weeks.

Any information or advice would be thankfully received.—W. PARTIER GRAY.

[We are sorry we have no information that would be useful to our correspondent. Possibly some of our readers could help. If so, we shall be pleased to hear from them. —EDS.]

On Mating.

One of the leading qualities of live stock that the bee-breeder must take into his calculations is what has been called "latency." It is the power which parent animals possess of transmitting to their descendants the characteristics of near or distant progenitors, though these may not be perceptible in the parents themselves.

A good example of this power is the way in which a male animal will transmit to his daughters the qualities of his female ancestors. Thus a bull of noted milk-recorded strain will transmit the capacity for yielding large quantities of milk from his mother or grandmother to his daughters.

It is the same with poultry. A cockerel of record laying strain will have among his descendants pullets that will give a high return of eggs, even though their mother may not possess that power to an unusual degree.

And just as with cows and poultry, so with bees. A drone from a stock with a big honey record will transmit to his progeny a propensity to store large quantities of honey.

Therefore if the bee-breeder is to derive the full benefit of the good qualities of the male it is of the utmost importance that he should not allow his young queens to mate with drones of any but the most desirable strain.

Here and now it may be as well to warn him that to accomplish this is not so easy as

it may seem. Whereas the breeder of other kinds of live stock can easily control both the male and female elements with practical certainty, the apiarist can only do so with the female, the control of the drone being largely a matter of the skill of the operator.

There are those who affect to believe that drone-control is altogether impossible; and the apiarist who wishes to improve his stock by selective breeding may be discouraged by their clamour.

"What!" they will scornfully exclaim, "Selective breeding of bees! Sheer nonsense. Everyone knows that you cannot do it without controlling the drones, and that is impossible. Even if you could control your own, you cannot control other people's. So how are you going to manage it?" And sometimes they will add, almost audibly, "Yah! gotcher."

If the individual addressed be a cynic he may be tempted to reply that the difficulty is usually surmounted as soon as the critic himself becomes a vendor of bees, for then he generally proclaims himself the possessor of a method that makes pure mating a certainty. Indeed, one well-known breeder assures his readers that the thing is both possible and impossible in the same breath—impossible when contemplating other people's stock, simplicity itself when referring to his own.

Not being a cynic, I propose to face the difficulty squarely. Having incited the bee-keeper to embark upon selective breeding, I shall endeavour to prove to him that not only is it not an impossibility, but that there are quite a number of ways of carrying it out, most of which, followed with reasonable care and skill, will reward him with success.

None of these methods is new; most of them were expounded over thirty years ago by Cheshire —"the great Cheshire," as Penna worthily calls him. I present them in bare outline, which is capable of being greatly varied or elaborated, according to the desire of the operator.

1. The selected colony is stimulated to produce drones to mate with young queens before the opening of the normal mating season.

2. During the mating season sufficient drones are raised from the selected stock to flood the locality and discount the possibility of cross mating.

3. By de-queening the selected stock at the end of the season the drones will be preserved to mate with young queens after other drones have all been killed.

4. During the season, on suitable days, the drone and queen stocks are cloistered till other drones have retired: they are then stimulated and liberated for mating flights.

5. The selected stocks are segregated in a remote locality where strange drones are not likely to appear.

The above are all quite practical methods of securing pure matings. The question of which to employ is largely a matter of individual taste, and consideration of economy of time and effort.

I have taken no account of artificial fertilisation of which Cheshire records successful instances, and in which direction successful experiments have lately been made by Mr. Gilbert Barratt. Neither should I care to say that my list of methods is complete, though I think they are sufficient to prove my contention, and are what I have experimented with myself.

I have been quite successful with Nos. 2 and 3, and fairly so with Nos. 1 and 5. No. 4 is easy enough, but takes too much time to suit a breeder who has to sell his stock cheaply.

No. 2 is Mr. Simmins's favourite method. No. 5 was Mr. Sladen's, and it was while experimenting with it that this brilliant scientist lost his life.

Of course, there are drawbacks. With No. 1 it is usually the weather, for if a cold snap comes in April the bees will generally kill off the drones, in spite of all the apiarist can do. The difficulty with No. 2 is the natural reluctance of the bees to raise the abnormal number of drones necessary to flood the locality, but this can be overcome by giving combs of drone eggs from the selected stock to other stocks to rear. Being thus provided for, they will have little inclination to raise drones of their own.—HUGH HOUSTON, Sidcup, Kent.

A Ramble in North Notts. in April and May.

BY T. SLEIGHT.

These dull, foggy days not being much in my line for rambling, I will just take the readers of the "B.B.J." on a ramble I had, beginning on April 29, and lasting ten days.

Going out of Clay Cross on Friday afternoon, April 29, I make my way through Northwingfield to Holmewood, taking a turn to the left at Heath School. I make for Sutton Scarsdale, for many years the home of the Arkwrights, but, from one cause or other, they have had to leave. As I free-wheel down the winding lane, that leads me into Carr Vale, Bolsover Castle stands out boldly on the spur of an imminence directly in front of me. Crossing the railway at Bolsover Station I pass Tinsley's Factory, where the world-renowned Bolsover jams are made, and where incidently, or accidently, a brother bee-keeper's bees gather, a very good blend, of what he defines as "strawberry honey," from strawberry jam. Now it was very hot, and pushing the old bike up Bolsover Hill was not a cool or easy matter, but as the day was one of three very clear days we had then it made the effort worth the while. As I neared the top, a rise of 600 or 700 ft. in half a mile from the valley below, I had a view out north, south and west that was indeed magnificent. There were smaller hills and valleys in between the next high range, ten miles to the west, on which I could look down, and the green fields with the trees dotted about gives one the impression of a patchwork quilt on a large scale. My memory fails me to describe

it to the full this long time after. So having climbed the hill, and as all hills have a steep west side hereabouts, and a long slope on the east side, I had plain sailing for a few miles. On nearing Worksop I thought a turn to the right, down an old narrow lane, would give me something that was more interesting than the straight macadam highways were doing, but I had not gone far before I found I was retracing my tracks towards the north end of Welbeck tunnel. Now here was a house nicely isolated, surrounded with every description of bee forage, trees, and fields of clover, a situation that I should have called ideal; but no bees were there, although there was a large garden and two ladies at work in it. I paused to admire it, and was just going to broach the question, where were the bees, when they went off to the further end, so I had perforce to pass on. The monster trees around there must be hundreds of years old. The next two or three miles into Worksop were certainly among sylvan scenes. It was along this drive that I saw the first sprig of hawthorn cut: just fancy, I thought, Maybloom out in April. I had more often seen it out in June. On going into Worksop the inner man wanted attending to, so seeing the shop of a pork butcher named "Bee," I patronised him for a pork pie, so I can truthfully say all bees don't gather honey. As I got out of Worksop, on the Doncaster road a mile or two, in a wood was a hawthorn tree in full bloom, and sycamore in flower, too, while a little further on is Carlton, where I pass the night.

(To be continued.)

[Will Mr. Sleight please send us correct address. A communication to the old one has been returned marked, "Gone away."—Eds.]

South Staffs. and District Bee-Keepers' Association.

The Annual Members Show of the above Association was held on Saturday, November 19, 1921, at the Station Hotel, Dudley. George Handley, Esq., Small Heath, presided.

The show was opened by E. Vaughan, Esq., J.P., Dudley, who said he was not a bee-keeper, nor understood anything about bees, but was interested in everything that was connected with agriculture and the production of food. He was very pleased to see such a fine display of honey and other objects sent by the members for competition, and very pleased with the company present. It showed very great interest was taken in the Association and in bee-keeping. He had known the secretary for many years, as one of the principal officers of the Poor Law Institution of the Dudley Union, and had always found that whatever he put his hand to do he did well, and congratulated the Association on having secured the services of so good a man as their hon. secretary. In declaring the show open he gave a subscription of one guinea to the funds, to be used as the Association thought fit.

A cordial vote of thanks was passed to Mr. Vaughan for his kindness in opening the show, and his generous gift.

The judge, Mr. S. Leedham, expert and lecturer of the Worcestershire Bee-Keepers' Association, gave his award on the various classes of exhibits. He said the honey exhibits were very fine, and great difficulty was experienced in deciding which was the best. The wax and bee appliances were very good, and showed great interest, enthusiasm and skill by the exhibitors, and he congratulated the Association on the well-attended meeting.

The following is a list of the awards:—Mrs. C. C. Thompson, 1st prize, class 9, honey cake; Mr. F. W. Astbury, 3rd prize, class 2, light honey; Miss Maney, 3rd prize, class 5, wax; Mr. C. Watson, 1st prize, class 5, wax; Mr. C. Watson, 2nd prize, class 6, bee candy; Mr. C. Watson, 2nd prize, class 7, wired brood frame; Mr. C. Watson, 1st prize, class 8, exhibit of useful nature; Mr. C. Watson, 2nd prize, class 9, honey cake; Miss Caith, Hinckley, 2nd prize, class 4, granulated honey; Mr. C. N. Dutton, 3rd prize, class 7, wired brood frame; Mr. C. N. Dutton, 1st prize, class 11, light honey (special prize); Mr. W. Hildreth 1st prize, class 2, light honey; Mr. W. Hildreth, 3rd prize, class 3, dark honey; Mr. W. Hildreth, 1st prize, class 7, wired brood frame; Mr. G. A. Mills, 1st prize, class 3, dark honey; Mr. P. Beresford, 2nd prize, class 2, light honey; Mr. P. Beresford, 1st prize, class 4, granulated honey; Mr. P. Beresford, 2nd prize, class 5, wax; Mr. P. Beresford, 2nd prize, class 11, light honey (special prize); Mr. E. C. Middleton, 3rd prize, class 4, granulated honey; Mr. W. J. Walton, 3rd prize, class 4, bee candy; Mr. W. J. Walton, 3rd prize, class 8, exhibit of useful nature; Mr. W. J. Walton, 3rd prize, class 11, light honey (special prize); Mr. W. T. Bodley, 2nd prize, class 3, dark honey; Mr. Geo. Walker, 1st prize, class 6, bee candy; Mr. Geo. Walker, 2nd prize, class 8, exhibit of useful nature.

The special prizes were given by Mr. A. Cheshire to members who had not won a 1st prize at any of the previous members' shows.

Tea was provided and served in a commendable manner by Mr. and Mrs. Jones, managers of the Hotel. After tea a meeting was held. The Chairman, Mr. George Handley, after complimenting the members on the excellency of the exhibits of honey, wax, etc., staged, referred to his early connections with bee-keeping, which was practically life long, and stated that he was a member of the Staffordshire Bee-Keepers' Association as far back as 1883. In the following year he obtained his first certificate. The keeping of bees, the study of them, had been a source of the greatest possible pleasure to him, as were the valuable lessons he had learned from them.

He congratulated the Association on the progress it had made, and the efforts it was putting forward to develop and extend its usefulness. From an educational point of view its value was incalculable. He also

paid a high tribute to the worth and work of the hon. secretary (Mr. W. J. Walton), to whose energy and earnest devotion the present position of the Association was mainly due, and expressed the hope that the members would give him all the support he needed. He strongly appealed to all interested in bee-keeping to always remember that the most profitable side of the science was not represented merely by the amount of honey one might obtain, but by the amount of knowledge and pleasure to be derived by close personal communion with the wonders of nature, of which bees were the most wonderful.

An address was given by Mr. S. Leedham on "Brood Raising. Its Importance and How to Induce It."

At the commencement of his remarks, Mr. Leedham mentioned how distressing it was to find so many bee-keepers quite ignorant of the simple principles of bee-keeping, people who were ready to blame everybody and everything but themselves, because they met with no success. Some seemed to imagine they had only to purchase a hive of bees and instal them in their back garden, and without further trouble, expect to find a nice crop of honey already bottled in their store-room at the end of the season. If people keeping bees were not prepared to learn what ought to be done and give them the little amount of attention they required at the right time, they had much better be without bees altogether, for disappointment was sure to follow. Bees, like all live stock, must be understood, and a knowledge of their habits and ways acquired before one could reasonably expect them to give us of their best.

Bee-keepers who did take an interest in the craft were constantly finding some little fresh thing to do, either for the comfort of the bees, or to save them unnecessary labour, so indirectly increasing their efficiency as honey gatherers. Such members were always ready to take advantage of any instruction that came in their way, whether in the shape of literature, lectures, or shows.

Referring more directly to the subject of brood rearing, the lecturer remarked he was not attempting to bring before them anything new (the craft did not lend itself to fresh novelties every day), but only to make a few suggestions in the hope that they might help to a better understanding of this important matter. He then said:—

"To make and keep conditions in the hive, so that the queen may be kept busy ovipositing early and late every season, is one of the very first essential conditions for good and profitable bee-keeping.

"Perhaps the age and quality of the queen herself stands at the head of the way, but next to that, to see that she is not restricted in any way in the exercise of the main function of her existence, is a vital matter, and it is up to each one of us to give the bees a move on in every way.

"It is easily possible for a colony of bees in the hands of a competent man to give double or treble the surplus a colony would give in the hands of a less instructed one.

"One of the peculiar things about bees is, that we must always aim to approximate to Nature's ways, as near as we possibly can, otherwise we may find them an untractable lot.

"Observant bee-keepers know when nectar is coming in freely, the queen lays to the full extent of her capability, and brood raising is at its highest. Whenever therefore anything checks the flow, we must make good the loss by suitable and judicious feeding to secure the same results; at the same time keep an eye on the brood nest to see there is plenty of room for the queen to lay, for, however good a queen one may have, if the brood chamber is filled up with sealed stores she cannot lay, and the blame rests not on her, but on the bee-keeper. These laden combs not only reduce cell space for brood, but they frequently act as solid divisions, and often prevent the queen from extending her brood nest over eight or more combs.

"Everyone knows that a large army of bees is necessary in every colony to secure a good honey harvest, but do we all know how to collect this army, and have them ready for work when the earliest nectar comes?

"In order to have good strong colonies of young vigorous bees in the early spring, we must make preparation in the previous autumn, and one of the best ways of doing this is to slowly feed, after the supers are off, with a warm, thin syrup or honey in small quantities in regulating feeders, and so set the feeders that a half pint or so can only be taken down every twenty-four hours; under these conditions it could hardly be used for storing purposes. Bear in mind I am not dealing to-night with the question of stores; that is an entirely different matter. I am rather trying to show how to keep the queen laying, even though the natural flow of nectar has to a large extent ceased, and this is done by applying our intelligence to the case, and making up to them, either with syrup or honey, what they are unable to get themselves from abroad.

"Exactly the same provisions apply also to the early spring that I have advised for the autumn, and when pollen is being taken in, then is the time to begin. Stimulative feeding before this would be too soon, inducing an activity which would be injurious.

"I have endeavoured to outline the course to pursue, and I feel sure if you make a practical test yourselves you will not fail to secure teeming colonies of bees, ready to gather for you the honey that abounds on every hand, while your slipshod neighbour will be bemoaning the bad season, bad bees, and bad everything but himself."

Mr. J. Price, Expert and Lecturer, Stafford County Agricultural Committee, then addressed the meeting on "Hints to Exhibitors." He said exhibitors should always be prepared to take the decision of the judge without questioning or grumbling, not to be disheartened, but "try, try again," learning the secrets of the successful exhibitor, and the points in which they have failed.

He then gave hints on preparing honey and wax for the exhibition table. In the honey there must be clearness, brightness, density, and aroma, presented in clean, bright glass screw-top bottles. In granulated honey the grain should be fine, and even in colour and texture.

The finest wax was obtained only from the cappings of the honey cells; it should be properly cleaned, strained from all impurities, without losing its aroma, and presented in as neat a shape as possible.

He complimented the Association on the fine show of exhibits, and the number of members present, and said it was the best show in the history of the Association. Questions and discussions were freely entered into at the close of each address.

Votes of thanks were passed to the chairman, the lecturers, and the hon. secretary.—(*Communicated.*)

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Bee-Keepers' Brotherhood.

[10583] With reference to the proposed "Bee Brotherhood," may I be allowed to make a suggestion?

I think that it would be more in accordance with the dignity of this most ancient of crafts (if the Brotherhood were formed) that it should apply to the Heralds for a Grant of Arms.

Any Society may possess a "badge," surely it would be more distinctive and honourable for the "Bee Brotherhood" to possess a Coat of Arms?

In that case members could wear the Arms in their buttonhole if they desired; members of the trade who joined could use the Arms on their catalogues and billheads; the "Bee Journal" (whom, I'm sure, would join) would have its appearance enhanced by having an escutcheon on its cover.

The cost of taking out a grant would not be excessive, and the annual tax would only be £1 1s. I have no doubt that intending members would subscribe to pay the fee to the Heralds.

I, myself—if the Brotherhood was formed—would have much pleasure in presenting them with the design necessary before the Arms could be reproduced for either wear or use.

Will other intending brothers express their views on the idea?—E. L. BATSON JAMES.

[This letter was received as long ago as June last. We did not publish it at the time, as we wished to give the matter consideration. We are afraid our correspondent's suggestion, admirable though it is, cannot be carried out. So far as we can find out, while it might be possible for a club to have a crest, and for each individual member to use the crest, for instance, when writing from the club house, anyone wishing to use it at their private residence would have to pay an annual licence of at least a guinea. We shall be pleased if any reader can give us information on this point.—EDS.]

[10584] I am much interested in the idea of "A Brotherhood of Bee-keepers." We want introductions and mutual help, and I am sure an easy recognisable badge would be the means of bringing this about. I am also sure the idea would be the means of adding numbers to the bee-keeping industry besides digging many existing bee-keepers out of their seclusion. Here, in Mitcham, where I have kept bees for fifteen years, I now and then come across a bee-keeper, and we had no idea that each other existed. Needless to say, we at once become friends, and talk over our ups and downs in the craft, and I may here say that in all my experience and relationship with brother bee-keepers I have yet to find one who is not an honest and upright man. There are hundreds about, and I do think the idea of a distinctive badge will greatly add to the welfare of bee-keeping generally, and no doubt bring members to our County Associations and the B.B.K.A.

I suggest that 1s. be the charge for the badge, and that each holder shall be registered. I would further suggest that (assuming the "B.B.J." would issue the badges and keep a register of names and addresses) certain known bee-keepers in each district should have the option of helping to distribute the badges, they, of course, supplying the information of name and address of each holder to headquarters. Would it be out of place to suggest that some of our well-known appliance makers would be willing to offer prizes in kind to the most successful distributors of badges within a given time? As a design I suggest *The Queen Bee*, with the words "Bee-keeping" under.—A. WOOD.

Warwickshire Bee-Keepers' Association.

[10585] In answer to Mr. E. W. Jones' letter, page 563, "B.B.J.," asking what is the above association doing? I should advise him to join the Association and find out, and not to follow his present Asquithian policy of "Wait and see." I have found the advice given by Mr. Leedham, the expert, in his spring and autumn visits to my apiary well worth the small subscription, but perhaps the owner of the Dorridge apiary knows all that there is to know about apiculture. If so, he should join the Association and help it, especially as he states he lives so near the secretary.

It may interest the Dorridge apiary owner to know that a lecture was given at Leamington on November 29 by MR. Leedham, the W.B.K.A. expert, at which fifty people were present. All the members of the association living in the district were notified by the

secretary, and the lecture was very much enjoyed. Mr. Leedham is giving a second lecture on "The Modern Method of Bee-keeping" at the Technical School, Leamington, at 6.30 p.m., on Tuesday, December 13. Perhaps Mr. E. W. Jones would like to come to it, and ask the expert what is being done, and where lectures, etc., have been held. As the "Dorset Yarner" said last week: "The expert is the link that keeps all members in touch with the association." It must be remembered that all secretaries have not the pen of a ready writer. I expect the W.B.K.A. is, like most other associations, short of funds, therefore, Mr. Jones, come and join, and bring the other owners of stocks with you, the more the members the more the association can do for them. Dorridge seems to be a place where lectures should be held, but how is the secretary to know this if the bee-keepers do not join the W.B.K.A.? One active member is worth many critics.—EGERTON ALLCOCK, Leamington.

December 2, 1921.

County Bee-Keepers' Associations.

[10586] The discussion under the above heading, at present appearing in the "B.B.J.," is undoubtedly of interest to a wide circle of readers, who are members of one or other of the County Associations: but, like your Flintshire correspondent, I must "proceed with caution," being on a similar footing as regards membership. At the same time, having waited for one or other of our members to join in and express their opinions, so far without result the occasion appeals to me, as a somewhat active member of the Staffs. B.K.A., to voice the convictions of many members of our County B.K.A.

The question that repeatedly comes to the fore is, "What are we getting for our money?" And beyond the privilege of competing for medals at some of the local shows, and the annual members meeting, we certainly offer little inducement for existing members to continue as such, or for new members to join us, and signs are not wanting to convince many of us that a form of rot has set in, that is most disconcerting to any well-wisher of the Association, and this can only be stemmed by the committee and others taking a keener interest in matters generally.

In the first place a section of our members broke away and formed an Association in the south of the county: now I am given to understand that another section not far from here have decided to break away, and if the feeling spreads the County Association will be so in name only.

We are fortunate in having a most progressive Educational Committee in this county, who employ an expert to minister to the needs of all bee-keepers, whether members of the Association or not, thus saving us the direct cost of the valuable services he renders; but at the same time, as "he who pays the piper calls the tune," we are to some extent handicapped. Then, again, the Educational Committee have established a free lending library, with a fine range of bee literature, in addition to which courses of lectures are being delivered at different centres by the county expert, Mr J. Price, which prove to be both educative and popular. The county re-stocking scheme has been run by the same authority for two seasons, and I regret to learn it is to continue again this season, as it claims the attention of the expert to the exclusion of more necessary work, namely visiting members in the spring and autumn, when practical help and advice is so necessary and welcome.

The system of District Branches of the County B.K.A. has been instituted, with good results, and is fostering local interest.

By the foregoing account it will be seen that, as an Association, we *follow*, rather than *lead*, in the county, and one great difficulty is the extent of the county, which makes it unweildly when being dealt with from a fixed centre, hence the institution of District Branches, with (soon to be appointed, I believe) in each case a local expert, who will be qualified to advise and assist members when spring or autumn visits are made, this being one of his duties.

As an extension of the above the county will be divided into sections, or divisions, when the District Branches are all formed, with a sectional or divisional secretary, whose duties will consist of arranging social visits of branch members and keeping in touch with the branch secretaries, and our general or county secretary, who at present is sadly isolated. This scheme appeals to me as being worthy of both financial and moral support, and should prove a step towards solving the question of "what do we pay for?"

Such matters as collective purchasing of appliances, queen rearing stations, etc., could all follow after the above scheme is developed.—E. JACQUES, Lichfield.

Diseased Bees Wanted.

[10587] I am spending as many hours as I can manage on experimenting on cures for "Isle of Wight" disease.

My experiments on *feeding* have come almost to an end, because of the death of queens. I cannot keep bees alive much more than two days without a queen. With a mother bee among them they are so much more content that they do not worry themselves to death trying to get home.

Several queens with only thirty or forty workers each are what I want most, preferably, but not necessarily, diseased with *Tarsonemus woodi*, but any useless stock in any form would serve.

It may prove that winter is the best time to deal with the mite.

Will some of your readers, who cannot undertake investigation themselves, help me in this matter?—JOHN W. MOIR, 64, Polworth Terrace, Edinburgh, Hon. Treasurer, Scottish Bee-keepers' Association

Does Bee-Keeping Pay?

[10588] In reply to your request for a few simple balance-sheets, I thought that it might be interesting to the readers of the "B.B.J." to know what I have done with two stocks, having absolutely no previous knowledge or experience in the craft. I quite believe that this has been an exceptional year; and possibly I have been fortunate. I am situated about 20 miles from London in the county of Surrey.

Seeing two stocks with various accessories advertised in the local paper, I went to see them. The owner kindly explained to me the interior of the hives, and answered a few simple questions. I bought them and got them home on March 12. At the beginning of April a friend came and opened them up and gave me a lesson. Since then no one but my son and myself have in any way interfered with them. I had a swarm on May 13, and another on May 20, which we hived successfully. On September 26 I packed them down for the winter, taking a comb of honey from one stock which had an abundance and giving it to another that had not quite so much. Each of the four stocks were very strong, and I consider had quite enough stores to winter on. I have not given any syrup or candy, but intend to give candy early in the New Year. I might add that I attended two demonstrations by Mr. Judge, which were very helpful NOVICE.

Debit	£	s.	d.
2 stocks of Italians with hives ...	8	0	0
1 extra hive and various sundries	1	0	0
1 second-hand cottage hive fitted with drawn out combs and sundries	1	12	6
Gloves and veil		11	8
1 doz. frames fitted with foundation		15	9
Bee-keepers' guide book		2	0
Bee-keepers' produce book ...		2	6
Glass and edging for sections ...		6	6
150 sections	1	1	6
Wax for foundation		6	6
Sundry appliances		10	10
Subscription to B.B.J.		10	0
Net profit for the season	20	15	3
	35	15	0

Credit	£	s.	d.
167 sections and 13 lbs. run honey at, say, 2s. per lb. (I sold most of the sections at 2s. 6d.) ...	18	0	0
4 stocks and hives (at £4) ...	16	0	0
Various appliances	1	15	0
	35	15	0

[10589] In answer to above, may I give my experience of bee-keeping in Essex? Although I knew very little about bees I bought a small hive and nucleus in May, 1919, and arranged with a local bee expert to take charge of them for me. I have not kept detailed accounts, but enough to show that bee-keeping does pay, though we have to take the bad seasons with the good. In 1919 I lost my first swarm. In 1920 I sent a swarm to a friend in Hertfordshire, and started No. 2 stock for myself. I now have three good stocks wintering on their own stores, after giving me 265 lbs. of honey this season. As the accounts below include small items, such as entries to local show, subscription to Bee-keepers' Association, I shall include prizes taken as profits :—

Expenses, 1919.	£	s.	d.
Hive and bees	3	5	0
Appliances	0	10	6
Attendance	0	15	0
	4	10	6
Returns for Honey.			
1919	3	10	0
Expenses, 1920.			
New hive and other goods ...	4	19	7
Sugar for feeding...	1	18	8
Subscriptions, paint, etc. ...	0	13	4
Attendance	1	10	0
	9	1	7
Returns in honey	2	10	0
Discount on goods	0	10	7
One first prize	0	7	6
	3	8	1
Expenses, 1921.			
New hive and other goods ...	6	14	6
Subscriptions, entries, paint, hire of extractor, etc. ...	1	4	6
Attendance...	2	5	0
	10	4	0
Returns for 1921.			
Value of honey	23	15	0
Three first prizes...	1	0	0
	24	15	0

Expenses for three years: 1919, £4 10s. 6d.; 1920, £9 1s. 7d.; 1921, £10 4s. Total, £23 16s. 1d.

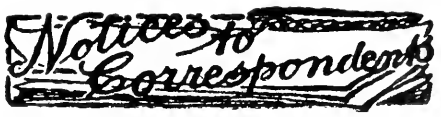
Returns for three years: 1919, £3 10s.; 1920, £3 8s. 1d.; 1921, £24 15s. Total, £31 13s. 1d. Profit end of three years, £7 17s. A. COLLINS (MISS), Essex.

Metal Ends.

[10590] Any difficulty in getting these on to frames is easily remedied with a knife or sharp chisel—the latter for preference—by taking a slice off one side of end of top bar, beginning the cut three-eighths of an inch from side bar. Begin with a mere shaving, and cut deeper to end of frame. Trim the three-eighths so that metal end goes on fairly easy. By using chisel on each side frame ends those nice pointed frame ends may be made. I always take metal ends off when extracting, as then the frames and combs lie flat on cage, thus saving many a tender comb from coming away under top bar.—ROBIN HOOD.

Late Pollen.

[10591] Yesterday (November 23) I found a bee carrying in pollen into one of my hives! This is a record here, I think, and certainly to me for November *after* a cold snap.—C. L. M. EALES, Tiverton.



"ENQUIRER" (Cheshire).—(1) We do not know anyone who has tried it, so cannot say. (2) We would have to go over the whole book to reply to this query. Sorry, we cannot spare either time or space. Better follow the methods given as closely as possible. Of course, the instructions as to setting hives out from the cellar do not apply. (3) We should say about the third week in June. (4) Not having tried it, we cannot say from practical experience, but should say, speaking generally, it is a good one. (5) We do not know that we can go so far as to recommend it, but the methods of queen rearing there should give very good queens. (6) Yes. July, 1920. but we are out of stock just now.

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Advertisements must reach us NOT LATER than FIRST POST on MONDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

WILLOW-HERB should be planted **now.** 12 roots, 2s. 6d.—BOWEN, Apiarist, Cheltenham. w.6

FINEST LIGHT LINCOLNSHIRE HONEY, granulated; only 1 cwt. left.; price, 14 lbs., 22s. 6d.; 28 lbs., 44s.; 56 lbs., 87s.; carriage paid; tins free; sample 6d.—CHARLES CUBLEY, Gedney, Holbeach, Lincolnshire. w.1

WANTED, Books, including Cheshire, 2 vols., 1886; Reaumur, 1744; Maxwell, 1747.—N. VASLET, Oxford Road, Cambridge. w.8

PURE LINCOLNSHIRE HONEY, in 28-lb. tins, £8 per cwt.; sample 4d.; carriage paid.—GEO. THOMPSON, Helpringham, Sleaford. w.21

COMPLETE MODERN APIARY FOR SALE, consisting of 40 strong Italian Stocks (1921 Queens), in nearly new 13-frame Hives, zinc-covered roofs, each hive fitted with excluder and two supers; 4-frame Extractor, Ripener, Feeders, etc.; carriage paid in Great Britain; April delivery; £300, or near offer.—Box 48, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. w.11

GUARANTEED high-class Devonshire Clover Honey, in 28-lb. tins, £2 each; or offers wanted for 6 cwt. granulated white.—W. G. SAGE, Thorverton, Devon. w.10

HONEY, finest Suffolk, tins and carriage free, £8 cwt.; sample 4d.—SPRATT, Grove Farm, Occold, Eye, Suffolk. w.9

HANDSOME WHITE LEGHORN COCKEREL, Cam and Barron, also White Wyandotte Cockerel, Hunter and Barron, 15s. each.—JOSEPH MINTO, 58, Attwood Terrace, Tudhoe Colliery, Spennymore. w.2

HUBAM, or White Annual Sweet Clover. Grow it for your bees and get a seed crop while the seed is still scarce; price $2.00 per lb. A great Honey Plant.—E. G. LEWIS SEED CO., Media, Ill., U.S.A. w.16

HONEY FOR BEE FEEDING.—Australian, two tins, about 60 lbs. each, 56s., one tin 28s., 7-lb. tins 4s. 9d. each; West Indian, two tins, about 60 lbs. each, 71s., one tin 40s., 7-lb. tins 5s. 9d. each. Carriage paid 100 miles on all orders 28 lbs. and over. Cash with order.—SOUTHWOOD, 95, Acton Vale, London, W. r.v.15

LIMNANTHES, best flower for bees; plant now for spring feeding; strong plants, 4 dozen, 2s. 6d., post free; seed for spring sowing, 6d. packet.—A. RICE, 21, Birchgrove, Whitchurch, near Cardiff. w.19

EXTRACTED ENGLISH HONEY, £5 per cwt.; sample 3d.—DUTTON, Terling, Witham, Essex. w.20

LANCASHIRE BEE-KEEPERS' ASSOCIATION. Wanted, for about eight weeks, commencing early in April next, a Touring Expert.—Application, with testimonials and stating terms, to be sent to J. WILDMAN, Hon. Secretary, Forton, Garstang. v.82

3 CWT. finest English Honey in 56-lb. tins granulated, £7 per cwt., carriage paid; tins and crates returnable; sample 6d.—F. CLARK, Southop, Lechlade, Glos. v.84

CHRISTMAS PRESENTS. — Pure Berkshire Honey, 7-lb. tins, 13s., carriage paid.—DR. BELL, Lambourn, Berks. v.66

GUARANTEED absolutely pure Light Cambridge Honey, 13-lb. tins, 18s.; 28-lb. tins, 39s.; carriage paid; sample 4d.—J. YOUNGER, 16, Maid's Causeway, Cambridge. v.77

BUSINESS ADVERTISEMENTS.

1½d. per word.

QUEENS, COLONIES, NUCLEI.—Book to secure definite deliveries. Revised circular gratis.—BOWEN, Queen Breeder, Cheltenham. w.3

INCOMPARABLE CREAM CANDY, excellent for feeding, 7 lbs. 8s. 6d. (reduction for 28 lbs.).—BOWEN. w.4

SEASONABLE GIFT.—7 lbs. delicious Cotswold Honey, 13s.—BOWEN. w.5

WANTED, a few good Carniolan Stocks for April delivery. State lowest price.—Box 49, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. w.12

"GLEANINGS" for November is devoted specially to "wintering problems." There is also an article by Dr. Phillips and Jay Smith on "The Best Queen Cage Candy." Is it not worth taking regularly? Subscription, 7s. per annum.—Agent, BURTT, Manufacturer, Gloucester. w.15

FINEST IRISH HONEY, 84-lb. keg, £5; 7-lb. tin, 10s. 6d.; 2 lbs., 3s. 9d. Cheaper grades.—84-lb. kegs, 56s. and 28s.; ½-lb. samples, three kinds, 2s. 6d.; carriage or postage paid; packages free. Special prices to large buyers.—GEORGE WHITE & SONS, LTD., Honey Specialists, Waterford. w.22

For best bees, queens and appliances come to PEARSON & GALE, Marlborough.

OUR 1922 CATALOGUES of Bees and Queens are now ready. Appliance Catalogues will be available mid-January. — PEARSON & GALE, Marlborough. w.13

QUEENS AND NUCLEI of world-famed American-Italian strains. A limited number of 4-framed Stocks for honey production can be supplied in early June if ordered immediately. Queens.—May delivery, selected untested Italian, 15s.; select tested American, 25s. June delivery of American fertile Queens: Untested, 12s. 6d.; select untested, 15s.; select tested, 25s. Stock guaranteed free from Acarine disease before delivery. Orders must be placed early, as delivery is made in rotation. Discount on quantities and on early placed queen orders.—STURGESS, Shenstone, Hartford, Cheshire. r.w.18

QUEENS by return from April till October.—PEARSON & GALE, Marlborough. w.14

SWISS BEE STOCKS FOR SALE, headed by Queens bred from imported pedigree queens, delivery May. These Black Swiss Bees have been line bred for 40 years, the queens being mated in higher Alpine valleys, no other bees existing within miles, are as purely bred as our best strains of horses, cattle, etc. Swiss Bee Society keep stud books, issuing numbered certificates with all pedigree queens mated at official mating stations. Official numbers of my breeding queens are 564, 92/60 and 93/60. Pedigree queens are not primarily bred for honey gathering, but are used by beekeepers to raise queens for re-queening purposes, these queens through long selection being noted for freedom from swarming. Impulse workers are long lived, and, being kept at all altitudes up to a mile above sea level for honey gathering, give huge colonies, and are most resistant to weather and diseases, standing four months' continuous confinement to hives during Swiss winter without difficulty, grand honey gatherers, giving splendid white cappings to combs. All purchasers can absolutely depend on receiving the Swiss breed I advertise.—DAVIDSON, Forest Road, Burton-on-Trent. w.7

BEES AND QUEENS.—Our 1922 Catalogue now ready. Dont's miss it! Free on application. —PEARSON & GALE, Marlborough. w.17

CARNIOLAN HOME-BRED QUEENS are more vigorous. Book now from actual breeder Satisfaction guaranteed.—SWAFFIELD, Libertus Villas, Cheltenham. r.v.91

FAMOUS COTSWOLD HONEY, £8 cwt., delivered. — SWAFFIELD, Libertus Villas, Cheltenham. r.v.92

QUEEN BREEDERS.—Benton Pattern Mailing Cages, 5s. dozen, 30s. 100; sample 6d.—TICKELL. r.v.68

SOFT CANDY.—6 lbs., 7s. 6d.; 10 lbs., 10s. 6d.; post free.—TICKELL, Westbourne Apiary, Cheltenham. r.v.69

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Bee-Keepers' Brotherhood.

We have had several suggestions and designs for a badge. Only one correspondent, Mr. W. C. Webster, of Hampstead, however, suggests any rules, but also gives the name of "The Fraternity of Bee-keepers." For our part, though, "Fraternity" and "Brotherhood" mean the same thing, we prefer "Brotherhood"; it gives one the impression of a closer relationship, otherwise rules 1, 2, 3 and 4 are exactly in accordance with our own ideas. No. 5 we had not thought of as one of the rules, but it is an excellent idea. They are as follows:—

RULES.

1. That its name shall be The Fraternity of Bee-keepers, or Bee Fraternity.

2. That its objects be to create and foster goodwill and fellowship between all bee-keepers.

3. That any bee-keeper may become a member/brother of this fraternity, without payment of any fee and be entitled to wear the badge.

4. That members/brothers must always recognise one another wherever they should meet, and always be willing to help and offer advice to each other.

5. That members/brothers may form local groups if they so desire, to discuss local or general topics concerning our the craft.

6. That the governing body shall be THE BRITISH BEE JOURNAL, from whom membership forms and badges can be obtained, and in which any notes and news concerning the Fraternity will be published.

We certainly have no wish to constitute ourselves a governing body, as Mr. Webster so kindly suggests; in fact, we do not think such a body is needed. All that is required is that those using the badge do so on the understanding that they undertake to carry out the rules to the best of their ability.

The B.B.J. will, of course, be open for any notes or news.

A Dorset Yarn.

The great change in temperature (wind left the East and went South-West with a rise of 30 degrees) has had bees out in crowds. They are taking in pollen from gorse bushes, not only one stock, but all are carrying pollen. The most energetic are two lots that I drove from a neighbour's skeps; they were given a few combs of stores that were not capped over, and three lots of syrup from a 3-lb. bottle feeder. When last they were looked over there was a lot of young brood, and they are now adding to stores of pollen. Quite a lot of stocks of last summer added such a lot of pollen. I did not like to see so much, but I assume the bees could not get so much nectar from the flowers owing to excessive drought, and not wishing to be idle they made up loads of pollen.

My lady pupil said these two lots would be better joined up into one, but each skep had swarmed. I knew that each had a young queen, and it was worth the risk to try to build up each one, having plenty of extracted combs, as well as some containing stores. It looks as if they are on the high road to success. Owing to breeding late, they have plenty of young bees; it is these that are so aggressive on the wild gorse. The strong growing variety blooms at all seasons, and is very floriferous in winter when there is so little else but ivy. The frost of a week or two ago has spoilt the "Aralias," or, as they are termed now, "Fatsias." It has also spoilt the wonderful flowers of Adam's needle, or "Yucca." The long, dry summer has made these flower more than they have done for ten years, but the last flowering spikes were spoilt as they opened. These peculiar flowers, though visited by bees this season, are fertilised by beetles, the "Pronuta Yuccazela"—still, this is digressing; no matter what the flowers are if bees visit them. There is a lot of white pollen in the Yuccas, yellow in gorse, but there is a red-coloured one being carried in by ours that is beyond my knowledge.

When the East Dorset members met at a conversazione tea and lecture one was able to get at the value of the takings of some of them. One realised 50s. worth per hive; another gave the weights in cwts.; one said the largest cheque was £9; one bought two swarms and one nucleus, he had 1½ cwt. of honey; a bee-keeper from the Cardiff area had 4¾ cwt. from his five stocks; one lady said a stock had developed crawlers since the cold spell; another bee-keeper had a lot of dead bees hauled outside (one tried to reassure them it was usual for some old bees to die in cold weather, these would be brought out when it was warm again). Another was concerned about the great amount of fæces that was deposited on the alighting boards; here there were no crawlers. There are diverse opinions as to this, but all is not well when it happens, as healthy bees do this away

from the hive. I have found this when unripened or fermented stores were given to bees, combs that had been waiting about a few days after being extracted when placed in the hive to be cleaned up. This lot showed soiling on the front of the hive. The cold weather may have some effect on the stores if not sufficiently covered. I have known sections, even when well capped, if left where it is cold, taste of fermentation.

One lady from the Blandford area said her garden was like spring, with bees; her gardener got a sting from them that morning (Saturday, December 10). All mentioned the amount of pollen being gathered, while only one spoke of bees on the ivy. All of these bee-keepers are nature lovers, or at least they take an interest in the flowers for bees; if the Dorset Yarner has done even this it shows his yarns are not in vain. Another had noticed the bees on the moist places in the roads. This is one of the sure signs of breeding when they take in moisture to moisten the old pellets of pollen. Another one (a head gardener) has made his show-section cases, both singly and in multiple; his query was, "Should they be screwed in or with a hinged cover?" Had to tell him that judges liked to be able to take them out so as to see them without the frilling. One can only make a deduction that there will be more competition in the honey classes in Dorset next year. Since the Dorset Association has been formed, there has been a great advance in the honey classes. At one show last year there was only one 10-ft. table; this year there were five, making 50 by 4. If the cases are made there will be more entries in that class. He also wanted a pattern for frames.

When warning on bees at a small village named Winterbourne Zelstone, one of the bee-keepers spoke of the wild bees in Charborough Park, a very large, wooded demesne that has a brick wall round it for many miles to keep out rogues and keep in the deer. Bees are there in the trees. In the swarming season many of them are to be seen flying from place to place seeking a home to still further carry on the race. Two of these swarms of wild black bees were safely housed into W.B.C. hives; the gallant captain had the first on a Bank Holiday. He had to motor miles from shop to shop to get some bars in order to give them a good start. He was only able to get five bars which had the foundation in them. Some of the shop-people did not live at the premises, but he followed them up till he got a hive with the five bars, so his first one was started that night. A few days after another huge swarm came from over the wall from these wild bees. He had his motoring trip of ten miles again, but this time it was not Bank Holiday; he was able to get his hives, his bars and sections. He sold quite a lot of honey. The parson unloaded some while the gallant owner was in Scotland. His apiary was all built up on wild migrant swarms of British blacks.—J. J. KETTLE.

An Open Letter to the Minister of Education.

SIR,—Apiculture is a science, and like all sciences is not without its pitfalls. To enable the young to guard against these pitfalls is, I imagine, one of the duties of those to whom is entrusted the very great responsibility of educating the boys and girls of our country. It has come about that in my career I have frequently come in contact with many of the nation's pedagogues. Of them I wish to speak in terms of praise. They had a very high sense (with a few exceptions) of the duties they are called upon to discharge to the children and the State. It happens, however, that they are handicapped by the literature which, sanctioned by your Ministry, is used in our schools. I will not speak of any other subject than that which concerns me most—the science of bee-keeping. One does not need to be told that honey and wax production is essential to the well-being of our nation—the country cannot afford to do without bees, and embryo bee-keepers ought to be found in every rural school of our land. Whether or no small apiaries should be attached to our village schools is not for me to say, what I would wish is that the elements of bee-craft should be taught in these institutions, and it is scarcely necessary for me to say, those who teach should know something of their subject. Now, sir, I have in my possession a book used in our schools containing short articles on many subjects, presumably all coming under the heading of "General Knowledge." The article on bees might have been originally written a century ago, but since the book bears the date 1914 I presume it has been edited and re-edited. In fact, the same book contains a print of our gracious King George and his consort, Queen Mary. This being so, I conclude that the knowledge therein imparted is considered to be up to date. The children are told that "bees carry pollen in on their legs to make wax," and I have seen children watching bees returning to their hives, and exclaiming "Look at wax on their legs." I maintain, sir, that an article like this was written: First, by one who knew very little about bees, and, secondly, reviewed by one who knew less. Wax is an animal secretion, and is no more like pollen than butter is like cheese. Now, children have a way of growing up, and the time comes when school days are over. They leave school with a fancied knowledge of apiculture, and, moreover, ready to stumble into every pitfall surrounding this science. I am happy to say that among my bee-loving friends are several school masters and mistresses; they are in a position to contradict any absurd statements, but it is not edifying to know children in one school are being taught fact, and in another fiction with regard to bees.

That examination papers should contain

questions such as the following does not add credit to your Ministry: "What flower, from the pollen of which do bees gather the most honey?"

"How many years does a bee live?"

"Which flower contains the most honey, and which the most wax?"

I maintain that children should either be taught the elements of beecraft, or not at all: but since apiculture is such a valuable science I could wish that it entered into the curriculum of every school."

In conclusion Sir, would it not be possible in the future on the publication of any books for reading in our schools that someone be asked to write an article or articles on bees who understood his subject, so that what little our young people learned about these interesting insects would be at least correct.

I have the honour to remain your obedient servant.—E. F. HEMMING, Steeple Gidding.

On Mating.

When the breeder of live stock mates two individuals of practically the same race or strain, he usually obtains in the progeny the characteristics of the parents or some other near ancestor.

But when the mating is between individuals of widely different race or type, the offspring may be distinguished by characteristics which are absent from any of their known ancestors, and can only be referred to individuals who existed many thousands or even millions of years before.

The latent power of parents to reproduce the characteristics of far-distant ancestors we shall call "remote latency."

As an example of the working of this power, Darwin cites the frequency with which definite striped markings occur in mules. As neither the horse nor the ass is striped, he considers these markings a throwback to a zebra-like animal from which they are both descended.

A well-known American scientist is also responsible for the statement that in America, where the fusion of individuals of widely divergent races and types is perhaps more frequent than elsewhere, it is common to encounter in the dissecting-rooms abnormalities in the human anatomy which can only be explained by the theory that they are derived from a simian ancestry.

In general, crossing may be said to have the effect of calling up the savage or primitive characteristics of distant progenitors The mule is possessed of far more endurance and is also more vicious than either the horse or the ass. Cross-bred bees are more savage than either of the races united in the cross, as every bee-keeper knows. "De Lord make de black man, de Lord make de white man; de Debil make de half-breed," expresses the African's recognition of the fact. The instinctive dislike with which people of all races regard "mixed" marriages points in the same direction.

In breeding bees, one sometimes encounters the influence of remote latency when he does not expect it, as once when I crossed two strains of Italians with surprising results.

I had a stock of choice Goldens in which the drones had been preserved till late in the season, and Ligurian drones being then scarce, I transferred this stock from my Golden apiary to where I had young Ligurian queens waiting to be fertilised. I did not regard to it as a case of crossing, as both were Italians. The Goldens were a vigorous strain, and no harm could result, only an extra dash of colour in the young

Some time afterwards I saw a number of very Black bees entering and leaving one of these native hives. I diagnosed it as a case of robbing, but soon saw that the Blacks belonged there. Then I examined the record card to see if my memory had played me false, but that was all right. I was then forced to the conclusion that it was an example of cross mating, and that, unlikely as it might appear, someone else in the neighbourhood had been keeping a drone stock going till near the beginning of winter.

While I was lamenting this stroke of ill-luck, behold! out popped a couple of bright Golden workers and a three-banded Ligurian, all young bees, conspicuous among their dark companions.

I then opened the hive, and found emerging from the cells bright Goldens, typical three-banded Ligurians, and a host of dark bees that bore scarcely a trace of the golden colour

Now the question arises: Where did these Black bees come from? The mother was a true Ligurian, one of the best that ever came from Italy. That she had mated with a Golden was demonstrated by the presence of Goldens among her progeny.

Sladen says that three kinds of bees are to be seen in the offspring of a cross, those that resemble the male, those like the female, and the rest presenting all shades of variation between the two. But here, besides representatives of the male and female type, were a mass of bees that bore no resemblance whatever to either of them.

I do not think the phenomenon can be explained in any other way than as an example of the working of remote latency. The Blacks represented a primitive type of dark bee which was the forerunner of all the Italians, both Golden and Banded. Perhaps it might not be too much to say that all our bees are descended from one primitive type of dark bee, to which they revert occasionally. Why not? It is millions of years since the original of the equine race existed or our own ancestors climbed the trees, and if horses and humans can throw back to that remote period, so I should say can bees

And now I wish to relate something that the reader may consider even more surprising. When the following summer came and that stock wakened up to full activity, the Blacks disappeared. There were still the Goldens and also the Ligurians, but there was nothing intermediate but what could be

regarded as quite ordinary specimens of Italian bees.

Here I want to say a word about the Italian bee. It is altogether a mistake to imagine, as so many do, that only the brightest coloured specimens of banded bees can be real Italians. Many Ligurians have but very slight markings, two faintly defined abdominal rings and a dark scutellum. Others exhibit the three rings more or less distinctly, and a dark or slightly tinted scutellum. Some of the best known strains of Italians are almost as dark as the darkest "Hybrids." It is therefore misleading to try to distinguish them by colour alone. What should be looked for are their well-known racial characteristics: great fecundity, energy, and gentleness. If they possess these, they are Italians, whatever their degree of colouration.

And now what about the variation of colour in that particular stock after the first year? It seems a mystery until one remembers that primitive characteristics called up by remote latency are often prominent only in youth, and tend to disappear when maturity is reached. The first descendants of the queen were black; when she matured they became normal.

I may say that I raised several batches of virgins from that queen. They were all banded in the manner of workers, and those to whom I sent them immediately pronounced them "Hybrids," meaning the result of a Black cross.

I have observed similar phenomena to the above in other stocks, but not to the same degree.—HUGH HOUSTON, Sidcup, Kent.

Bee-Keeping in S.W. France.

BY A. RICHARDS.

During the Easter holidays four bee-keepers, including among them Mr. W. Herrod-Hempsall, made a visit to the South-West corner of France to meet some of the bee-keepers there, and see for themselves what the bee industry in that part of the country, so famous as a bee district, was really like.

As the details of the journey can be of no special interest to bee-keepers in general, I will omit to tell of our progress in getting there, save to say that in the beautiful cultivated country we passed through on our way from Paris to Bordeaux, we saw very few hives from the windows of the railway carriage, and it looks as if there, as in our own country, a rich harvest is apparently lost for the mere lack of gatherers. The country round Tours is known as the garden of France, and for some distance before reaching that beautiful city, and thence through Poitiérs and Angoûleme is seen some of the richest soil and the most pleasing rural scenery in the whole of that country.

M. JEROME COUTEREL'S LARGE APIARY AND BEE HOUSE.

We reached Bordeaux on Wednesday night, and on Thursday evening were joined by M. Jérôme Couterel of Lavadac, Vice-President of the Apicultural Society of the Gironde, who thenceforward acted as our guide, philosopher, and friend.

We spent the time far into Thursday night poring over maps of the locality watered by the Gironde, the Garonne and their many tributaries, while M. Couterel explained to

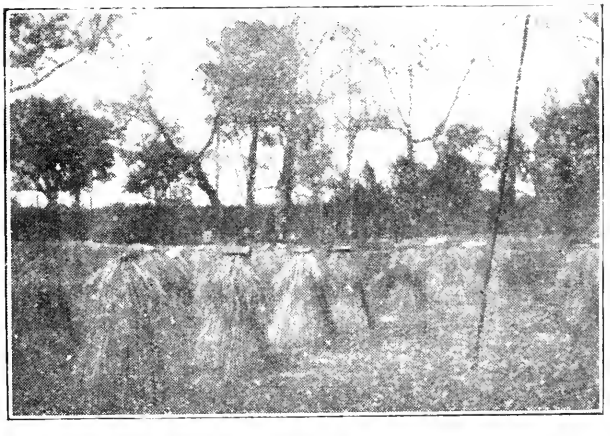
us the different soils and cultivation of the Gironde and adjacent Departments. On his advice it was decided to hire a car and make a tour on the next day of the country on both sides of the valley of the Gironde, and as he also gave us such very glowing accounts in confirmation of Mr. Dadant's previous statement that the Department of Lot et

M. Pierre Raynal's Apiary, Gazinet Cestas.

Garonne was the very El Dorado of bee keeping, and as he added to this the hospitality of his home with himself to show us over the country, we decided there and then to accept this offer and go with him to his house at Levadac on the Saturday.

Good Friday was a beautiful day, a day of general sunshine, not only throughout France, but England also, and although summer time had already begun in France, it was promising warm at 9 o'clock in the morning (eight o'clock English time) when we left Bordeaux. There had been no rain whatever during the previous two months, and the country was showing very distinct evidences of the drought. We had expected to find vegetation much more forward than we had left it in England, but it was very little, if at all, more advanced than on the warmer soils in some of the early valleys of Surrey. Plums were in full blossom in both places, and so were the early pears. Of course, in France we saw more of them, and we judged that a normal rainfall in both districts would generally put the more southerly country ahead.

Our route lay through that part of France so famous for its white wines. We passed the Sauterne estates and visited Barsac, and

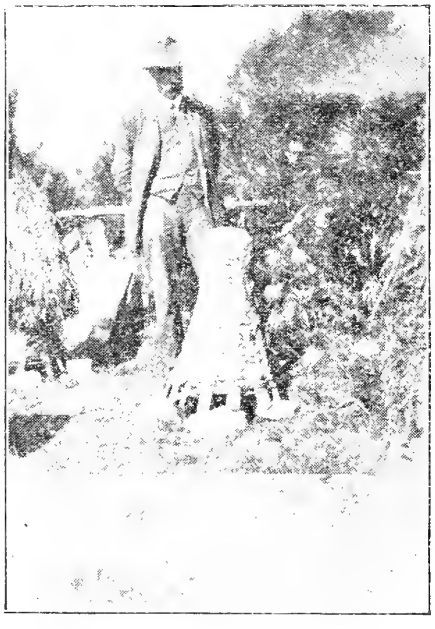


Apiary of Bournac Hives with Rush Covers On.

at noonday we even sampled some of these good things in an old-fashioned country inn at a small village called Popetet. Here, like royalty, but with less disastrous results, we were surfeited with a dish of lampreys and mushrooms in red wine sauce, as only the French know how to serve it, and as these good things came between courses of equally

good soup and omelettes à rhum, our impressions of the place were distinctly favourable. The only vehicle visible, excepting our own, was a native *dog cart*, viz., some planks nailed on to shafts, supplied with two wheels and drawn by a brown shaggy dog. A woman was sitting on the planks driving, travelling along at a gentle trot. This sight caused the British indignation to rise up to almost boiling-over point in the breast of one of our party, who considered it a species of cruelty to animals but on being assured that his sentiments would produce nothing but astonishment and pity among the inhabitants shou'd they ever become aware of their existence, he gradually returned to normal again.

During the morning we stopped to visit the apiary of one of the local bee-keepers working in a land of pines on a somewhat unkind soil, rather resembling the green



Bournac Hive Uncovered.

sands of our Southern Counties. This apiarist understood his work well, and had a good number of bar frame hives, as well as many of the cone-shaped ones so universal in that county. These latter are made of wicker sticks plaited into a sort of conical circular basket with a diameter of about 18 in. at the base and about two feet high. They are plastered over with baked cow dung, with an outside removable cover of straw thatching, similar to those still used to cover skeps with during the winter in some of the very remote parts of this country. We took photographs of this apiary, and also of one of his cow dung hives. Our friend was an excellent bee-keeper, and being delighted by our visit he gave us some excellent mead of his own manufacture, in which we toasted each other before bidding him our adieux.

Shortly after leaving here we reached better country, where the vine plantations stretched away on each side of us for miles. Along this road we saw acres upon acres of acacia groves, ensuring a bountiful harvest of splendid honey for the bees if the weather happened to be fine during their time of flowering, but as the country for miles round was so given up to vine growing, there would have been little else to be gathered in such quantities as to yield a rich surplus should the weather be bad during the florescence of the acacia. All the vine props are made of acacia wood, which accounts for these large plantations.

About four o'clock in the afternoon we entered the beautiful old town of Cadillac, where we paid a visit to M. Lataste, a former President of the Société d'Apiculture. He and his family gave us a warm reception; he showed us his apiary of eight-bar frame hives, and refreshed us with biscuits and the beverage of the country, after which we started for our run back to Bordeaux, through more miles of beautiful river scenery in country rich with fruit and acacia, and sufficiently supplied with ordinary country crops and wild flowers to make us consider it (were we not spoiled by what we saw subsequently) to be a distinctly good bee district.

Here and there we saw many small clusters of the local conical skeps, and one rather marvels that wooden hives are not more frequently encountered.

At noon we visited an apiary near to Barsac, which consisted of about 200 of these conical hives, but from the way in which the bee-keeper whom we had met in the early morning talked of his bees it was evident that, notwithstanding the poverty of his soil, he got more from them and understood them better than did this bee-keeper with his large number of stocks kept under such primitive conditions.

(To be continued.)

A Ramble in North Notts. in April and May.

By T. Sleight.

(Continued from p. 574.)

April 30.—A most lovely morning, so I set off towards Retford, but I had not gone far before I took a wrong turn, and came to an old grass or sandy lane that was in parts a yellow mass of gorse where I failed to find any kind of bee, only "Tommies"—(humble bees, Eds.). I wandered on into a wood, that was pretty well set with sycamore trees, and just through it was a white clover field that was about the best set clover field I saw this year, about 20 acres, and no rye grass in it. Didn't I just calculate what a few good hives of bees would be able to do planted on that wood side in two or three more weeks' time. I had got on to the forest sand in that wood, and for a few miles, where I seemed bound to keep taking wrong turnings, I found myself just on the outskirts of Blythe, making for Ranskill. I

thought Retford is never on this road, so I had to get my road map out to find out where I was. It is peculiarly a sheep country around here, and farmers had led turnips into the clover fields to get them out of the way for barley sowing. But where they were still growing they were yellow over with flower, real early forage to any bees about there, while in among the clover was yellow trefoil in bloom. At last I got the right turn for Retferd, and for the next five miles I was never away from a clover field, either one side the road or the other, and sometimes on both sides. It was here I passed the pretty village of Barnby Moor, in the midst of all these clover fields, but I failed to see any bees about there. If there were none what honey must have gone to waste. I am soon in Retford, where I spend an hour or two looking around the market. It appears to be a cheap little town, but not knowing any bee men about there I am soon out in the country again. Taking the Leverton road, under a clear blue sky, I got pretty warm by the time I got to the top of Clarborough and Grove Hills, but the air is so clear I spend half-an-hour viewing the country round. I have heard say one can see 30 church steeples from there. I never thought to count, but really the distance I could see was marvellous. I could pick out Stone Edge and Alice Head, on the other side of Chesterfield, some 30 odd miles away. It was on Stone Edge where I once stood and picked out Grove Hall, that lay about a mile from where I stood now (such clear days don't often occur, for I have passed Alice Head about 30 times this summer since then but it has never been clear enough to see Grove Hall since, at least not on the day I was up there).

A little further on I was able to see the other way. Lincoln Minster stood out bold and clear, a lot different to how it looked when I saw it from the same place four months before. I was on my way to Leverton, to give my lady friends a start with their bees, but when I got there they had decided not to bother with any this year, so I had another cup of tea with them, and passed on through Tresswell to Grove. What fields of beans I passed along that road, that was just about bursting into bloom. My next rendezvous was to call on Mr. Hudson, at Sunny Vale Apiary, at Rockley. So getting out on to the North road I pass Eaton and Gamston, and am soon at Rockley. That gentleman not being at home, or anyone else, I thought they might have gone to Retford market, and, as the day was young yet, it being only 5 o'clock, I decided to wait an hour to see if he turned up. Seeing what peculiar hive roofs they looked (he had wintered twelve hives of Italians). I was just examining one when the whole family drove up in a motor-cycle and side car. The roofs were flat, covered with thin sheet iron, which hung over all round 2 in.; and to keep it on without nailing he had cut and turned an inch back at each corner, which clamped tight hold of the wood. No wet could ever get in. I thought it a very good idea, for any rough wood would make roofs like them. I was very glad I waited to see him, as we had two or three hours good bee chat, and he showed me some very interesting photos of swarms of bees. The first was in a glass case. He said it was petrified, and it looked it, too. The next was hung around a man's whiskers, another was hung from a man's elbow; while the last was a lady holding a mop shaft, with two swarms hanging from the middle of it, down to her knee. He said there were 17 lbs. of bees on that shaft when he weighed them. She had a good nerve to hold them while he took the photo. He said all his bees were for sale, except one lot, on large frames, as he was going on a summer tour. He seemed to fancy the large frames, and was going to use all that kind another season. Hope he sees this in print, and gives us his experience of them at the end of next summer. I did not consider it a first-rate place for bees in the spring. There seemed nothing near, only red clay plough fields, which might have beans and charlock in; while for clover he stood well, a large field just over the road, and it may be alsike or red clover, it didn't look like white. Still, he had got a good sample of honey last year. I had to bid adieu, as I had six or seven miles to go, and the sun had set, so passing Markham Moor and Tuxford I was soon at Grassthorpe, where I spent the next week. In those two days I had ridden 60 or 70 miles, and only seen Mr. Hudson's hives by the wayside; there must be a great shortage of bees in that part of the country.

Extracts from Essex.

"*Fact and Fable.*"—Mr. Stich raises a timely objection to the continued publication of errors, but generally the "howlers" appear in periodicals devoted to other topics than bee-keeping, which may, however, be a "sideline." Our Editors wisely disclaim any responsibilty for statements made by contributors, otherwise they would have their hands full sometimes. I well remember the Rev. Hemming making the solemn announcement that bees would not tolerate skylarks near their hives, citing an instance where they had actually driven away a lark from her nest. In the same spring that he made this statement I observed at least seventeen nests in the field directly in front of my apiary, which then numbered some seventy-eight colonies, and there was no hedge or growth separating them. If the rev. gentleman would be so kind as to label his jokes, we should know when to laugh, but now often we feel inclined to laugh not *with* him, but at his statements. From some slight experience in raising some hundreds of thousands of drones for queen-rearing purposes (perhaps I had better say "queen-mating") I have repeatedly refuted the "howler" that drones help to maintain the heat of the brood-chamber. Many pupils at my apiary will confirm my statement, when I have shown them literally hundreds of drones crowded on the walls and hive floor in the evening after flying is

done for the day. If it were not for the pattern of my floor, which is very deeply sunk, they might interfere with ventilation, thus indirectly raising the temperature, but, seeing that they keep toward the back usually, where the floor is nearer the frame-bottoms and more in touch with the cluster, this idea may be dismissed. Never yet have I seen drones crowd upon the brood, sealed or not, in such a manner as to maintain warmth. Try an observatory hive plentifully stocked with drones, and see where they congregate. I will wager that you will hardly find a score anywhere near the brood But, of course, I forgot—these must be "Drones C" ("C 3" perhaps). Mr. Hemming should undertake to rear and sell some of these masculine bee paragons classed as "Drones A," and I am sure he will get a good demand. I could do with a large number myself, they would be very handy as King-Dustman combinations.

Mr. Stich's reference to the use of brood combs for extracting is interesting, and while I do not wish to prolong a discussion on the matter, I would like to point out one other undesirable feature in the use of old brood combs for this purpose; they hold less honey on account of the thickening of the bases and walls of the cells. The reference made by Miss Betts, page 554 to Dr. Brunnich can be verified by looking up the August number of the *American Bee Journal*. Dr. Brunnich has an article there on the subject of old combs, and his photos are very interesting. Perhaps our Editors may be able to find space to quote from this article in some future edition.

Respecting those shiny bees he mentions; may not these be sick or defective in some way undetected by us, but apparent to the other bees? I am inclined to agree with him that they are not always robbers, having the agonising experience of some seventy odd stocks in a turmoil of robbing through the carelessness of my young assistant this autumn when feeding, and precious few of those robbers showed outward signs or labels as robbers, nor did they wear kilts, until I kilted them with flour to track them to their hives.

"*Notes from Gretna*" (Immune Bees).—I am afraid my old friend Ellis has committed himself to a rather too definite statement in saying that those colonies *cannot* be infected. I would be interested to hear the report of microscopical examination of, say, 100 bees taken at random from each hive about a month after they had been robbing out infected stocks. I shall be doubly interested to hear Mr. Smith's explanation. Are we to understand that the queens supplied to those colonies were reared after the manner advocated by my worthy friend? If so, in what manner would he describe them being raised if imported direct from Italy, where, I believe, an elaboration of the Doolittle method is usually practised, essentially "artificial" in the initial stages.

"*Legislation.*"—Why, oh! why will not all and sundry get together on this subject and once and for all thresh out their differences? If the so-called "opposition" who do not object to the principle, will draft an outline of their wishes, one step forward would be accomplished; on the other hand, this would not satisfy the genuine objectors to any sort of legislation, therefore, we must make some compromise, and it would appear that compulsory registration might help considerably in the meantime. If we knew the exact location of every "cultivated" colony of bees, we should be the better able to control them, and likewise the advantage of knowing the address of every bee-keeper would be of immense importance in any educational propaganda. We cannot educate by compulsion any more than we can make people good by law. We can compel parents to send their children to school, but we cannot compel the children to learn; that comes unconsciously, when it is not genuinely voluntary. Yet in any educational scheme we shall have the costs accounts to face, and at the present time we are compelled to consider all national expenditure very carefully. Everything comes to him who knows how to wait, and in the meanwhile we ought to reap the advantage of the experiences of other countries which are trying legislation in various forms.

"*Echoes from the Hives*" (page 561.) — *Re* varied granulating of honies. Is it not most likely that this is caused by the proportions of the dextrose and levulose differing in the honey? This variation may be but very slight, but still sufficient to account for the difference in what is known as the "grain." I have often noticed that after nice fine-grained honey has been melted down, on its re-granulating the grains are sometimes coarse and altogether different from the first appearance of the solid honey. It may be that the heating has slightly altered the proportions of levulose and dextrose.

"*British versus Foreign Honey.*"—I have given my opinions upon this vital subject in previous numbers of the "B.B.J." It is simply "up to" bee-keepers and their various associations to make the first move. My communication to the Board of Trade last year was merely acknowledged, as was, I believe, that of the B.B.K.A. on exactly similar lines. So far as I am aware, nothing further has transpired. If every interested beeman were to write one letter this week to the Board of Trade on the matter, and every ensuing week send a postcard asking for attention to the matter, we might, say, by the year 2000, get the Government to do something. The alternative is to use your association, and throw the work on to the shoulders of your poor honorary secretary. At the same time, as a member of the Horticultural Sub-Committee for Essex, I heartily endorse Mr. Leigh's remarks, and have carried out his suggestion. Let all readers of the "B.B.J." take this letter of Mr. Leigh's seriously to heart, and also the extract from "Gleanings," which the Editors have wisely reprinted on pp. 565-7. Correctly labelled honey, well packed and judiciously displayed, will make more demand for British honey than we can fill. The golden key is found in "Organisation."—F. M. CLARIDGE.

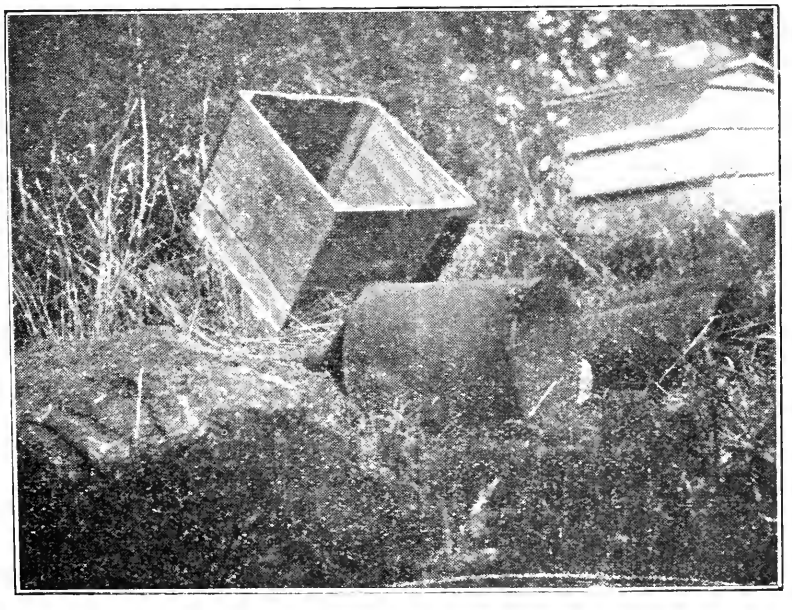
CORRESPONDENCE

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Unique Home for Bees.

[10592] I enclose some photographs of what I believe to be a unique domicile for bees—it is an old thrown-away can, such as is usually used for paraffin. It was found last year, 1920, occupied by the bees in a wood in Dorset; the finder secured it, and carried it home under his arm, and hearing that I was interested in it he kindly gave it to me this last August.

I understand that last year the bees were working in and out through the spout, but this year they have taken to a small hole in the bottom of the can, evidently the result of a blow bursting away the side. The bees can be seen round this aperture in at least one of the photographs. I suppose the bees found the spout too large, or something, as they have partially stopped up the inside end of it with a pad of wax and propolis, and only use it as an additional means of egress when delivering an attack, which they are very decidedly ready to do on the least provocation. So far as one can judge the bees are ordinary black English bees, at least there is not the least trace of Italian in them, and they don't look much like Dutch. They seem strong and healthy, and, judging by the weight, have plenty of stores, though one can't in the least see which way the combs are built, or whether there is anything but them in the can, which is quite substantial but for the one hole; in fact, I think it would be a bit of a puzzle to get the bees out without destroying them, and I am afraid they are only useful as a curiosity. Before I had them I believe they were left quite exposed, and one wonders the hot summer sun had not melted all their comb into a mash, and the fact that it does not seem to have done so suggests the combs are old, and possibly the bees had been in the can for some time before they were found. I have improvised a box cover for them, and they have come through so far quite well. I wonder, Mr. Editor, if you, or any of your readers, have ever come across bees taking possession of any similar place? The can, by the way, has a capacity, I should say, of 3 to 4 gallons, and is supposed to have been found on its side on the ground in the same position as it is now, and one only wonders what happens in the spring, when a lot of moisture is generated, as there is no opening below the level of the spout.—T. H. E. WATTS-SILVESTER.



A Unique Home for Bees.

Warwickshire Bee-Keepers' Association.

[10593] Replying to letter No. 10,585, "B.B.J." I am only too pleased to think there are some who defend the policy of W.B.A., but with all due respect to Mr. E.

Allcock he has still to answer my grievance *re* above.

I did not attend the meeting held by the expert on the 29th ult., owing to inability. Had I done so I should have gone with some doubt, for apparently it was intended for members only, though I suppose everybody in the county who is interested in bees could attend. The object of my previous letter was to find out what the Association had been doing, and it was not written in a spirit of antagonism.

It seems a coincidence that my letter did not arrive in time for the previous week's issue of "B.B.J.," and then a report of a meeting arranged by W.B.A. to appear a week in advance of my letter.

I do not doubt the expert's valuable advice, and I trust everything he advised will go home to those who attended his lecture and that they will benefit thereby. I think Mr. Allcock is insinuating when he suggests that I know all about apiculture. I have yet to know the individual who cannot take a lesson from those busy worker bees; experts, though they may be, are very often defeated.

I thank Mr. Allcock for his kind invitation to the meeting on December 13, but regret I shall not be present. What I should, and no doubt many other beekeepers in Warwickshire, would appreciate, is a little more publicity respecting the affairs of the Association, then perhaps many outside would become real live members.

It is up to the Association to launch out and obtain new members by fixing up a few more meetings, such as those held at Leamington. Even Mr. Allcock suggests "Dorridge" seems to be a place where lectures should be held. All I can add to this is again what is the Association doing with so many hives around its secretary?—E. W. JONES, Apiary, Dorridge.

[10593A] I was very interested in Mr Egerton Allcock's letter on the above, for although I am a member, I still have to find out what the W.B.K.A. is doing, apart from Mr. Leedham's visits and doubling the subscription

Perhaps the secretary will be good enough to answer the following questions:—

Why were not all members advised of Mr. Leedham's lecture on November 29?

Perhaps he has forgotten that he was informed at the annual meeting this year that some members were keen enough to travel a considerable distance to attend lectures.

Was the lecture on November 29 arranged and run by the W.B.K.A. or the Educational Authorities?

Was it not agreed at the annual meeting this year, after a good deal of opposition from the officials, to arrange a series of lectures, the dates of which and where to be held to be printed on postcards and sent to all members?

If so, when are we to receive them, as there are only three weeks left?

What percentage of the officials have kept bees this year, or in the last two years?

Is it correct that, at the annual meeting, all the resolutions were typed out and handed to the proposer and seconder before the meeting commenced, in order to get the meeting through in the least possible time?

So far as I can see, the W.B.K.A. has got into a groove, and now thinks that the only things necessary are the annual meeting, expert's visits, and perhaps taking part in the county show, and does not consider the things the members require. I know of more than one who, like myself, has joined another association, where the officials are doing their utmost to meet the needs of the members and further the craft.

Next year I shall be able to sign myself

A NON-MEMBER.

December 8, 1921.

Hive Making.

[10594] Having been unable to find, in your issues of 24th ult. and 1st inst., any criticism from one of your "ready writers" of the instruction given by the Rev. E. F. Hemming to beginners in the making of a hive in the issue of November 17, I feel constrained to essay the task, as in one most important detail the instruction will lead to serious trouble. There are other details I think misleading, but I will first deal with the most important one, viz., the interior dimensions of the brood box, which Mr. Hemming says will need to be 15¼ in. each way. That gives a space of ⅝ in. between the side-bars of the frames and the sides of the brood box. Surely such a space is inviting the bees to build comb there, and what expert enjoys the work of removing that? What will it be, then, to the novice in his early nervous efforts at manipulation? After being at the heather, I have recently found a little comb in a space of 5-16 in. The "reliable" bee appliance makers allow a space of ¼ in. only, as I have verified by measuring several hives in the last few days.

The minor points I will now deal with. How is a beginner who wishes to make a hive at small cost to procure boards 12 in. wide, which Mr. Hemming says is the minimum depth the brood-box case should be? Certainly boards should never be joined for this purpose if one wishes one's hive to be rainproof. My experience of over 30 years has taught me that it is most convenient to have the top of the brood-box case level with the top surface of the frames, as giving the maximum of ease in the putting on and removal of supers. As to the dimension of the inner box across the frames, 15¼ in. barely allows of 10 frames and a thin division board close to the side, which it will be difficult for the beginner to remove before he can manipulate when the stock is at full strength. The extra room given by dispensing with a movable brood chamber would be of greater benefit to the beginner than the convenience of the movable chamber, as reliable hive makers teach by their usual practice in the case of hives with frames parallel to the entrance.

Lastly, I am sorry Mr. Hemming should write so disparagingly of the result of the most careful efforts of the novice in hive making, "however handy with tools," in

comparison with the work turned out by reliable bee appliance makers.

My experience leads me to encourage by saying that a really good amateur wood-worker can, when he has fully realised what are the essential points of a good hive, make one as satisfactory in use, if not quite as finished in appearance, as the man in the trade, because he is not limited as to the time spent in turning out a hive.

I am glad Mr. Hemming welcomes "open criticism," which assures me mine will not offend him, and I hope it may help some earnest beginner.—ARTHUR FOX.

Help for an Old Bee-Keeper.

[10595] There are several people who sent after my last letter of thanks, they are :—

	£	s.	d.
T. D.	1	0	0
M. G.	0	5	0
Anon.	0	2	6
R. G.	0	5	0
J. E. P. (10s. per week for 5 weeks)	2	10	0

The latter hoped others would do the same for one or more weeks, so as to keep the old chap going. Once more thanking you for your kindness, also many thanks to the kind friends who have helped. The compliments of the coming season to all, and a prosperous New Bee Year.—SPENCER S. STOVELL.

Owing to arrangements for the CHRISTMAS HOLIDAYS, advertisements for the "B.B.J.," December 29, must reach us not later than FRIDAY MORNING, DECEMBER 23.

Special Prepaid Advertisements.

One Penny per Word.

Will advertisers please read these Rules carefully in order to save trouble, as they will be strictly adhered to.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on MONDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

FINEST SUSSEX HONEY, in 1-lb. glass jars, screw tops, 22s. 6d. dozen.—MISS PALING, Golden Square, Henfield, Sussex. w.63

HEBDITCH INCUBATOR, 50 to 60 eggs, £4.—THE MISSES COATES, Broadheath, Presteign. w.64

HONEY, pure English, 135 lbs. for £10 6s. 6d., tins included, f.o.r.; cash with order; sample 6d.—MYLAND, 139, Winchester Road, Basingstoke, Hampshire. w.60

RICH CLOVER MIXTURE, Light English Honey, slightly granulated, 3 cwt. left, in 28- and 56-lb. tins. What offers? Sample 3d.—HOUSTON, Ellen Villa, Sidcup. w.61

W.B.C. HIVES, second-hand, wanted, two outer covers only, two complete; Lee's preferred.—H. M. Y., "Monken Hadley," Braintree. w.62

A FEW splendid W. Wyandotte March and April hatched Utility Pedgree Cockerels, from good laying strain, from 18s. 6d.—THE MISSES COATES, Broadheath, Presteign.

EXCEPTIONAL BARGAIN. — Two complete Telegraph Stations, G.P.O. sounders and keys; perfect condition; a Christmas present that would make your boy's winter evenings one long delight; cost 50s. at Gamage's; sacrifice 20s., or nearest offer.—EDWARDS, Bee-keeper, Tehidy Road, Camborne. w.65

WILLOW HERB improves the bee garden; plant now; 12 roots, 2s. 6d.—BOWEN, Apiarist, Cheltenham. w.70

FOR SALE BY AUCTION, December 23.. Freehold Holding and Cottages, suit poultry and bees, at Haverhill, Suffolk.—Particulars, RUTTER & SONS, 63, Sidney Street, Cambridge. w.75

COMPLETE MODERN APIARY FOR SALE, consisting of 40 strong Italian Stocks (1921 Queens), in nearly new 13-frame Hives, zinc-covered roofs, each hive fitted with excluder and two supers; 4-frame Extractor, Ripener, Feeders, etc.; carriage paid in Great Britain; April delivery; £300, or near offer.—Box 48, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. w.11

GUARANTEED high-class Devonshire Clover Honey, in 28-lb. tins, £2 each; or offers wanted for 6 cwt. granulated white.—W. G. SAGE, Thorverton, Devon. w.10

HONEY FOR BEE FEEDING.—Australian, two tins, about 60 lbs. each, 56s., one tin 28s., 7-lb. tins 4s. 9d. each; West Indian, two tins, about 60 lbs. each, 71s., one tin 40s., 7-lb. tins 5s. 9d. each. Carriage paid 100 miles on all orders 28 lbs. and over. Cash with order.—SOUTHWOOD, 95, Acton Vale, London, W. r.v.15

LANCASHIRE BEE-KEEPERS' ASSOCIATION.—Wanted, for about eight weeks, commencing early in April next, a Touring Expert.—Application, with testimonials and stating terms, to be sent to J. WILDMAN, Hon. Secretary, Forton, Garstang. v.82

BUSINESS ADVERTISEMENTS.

1½d. per word.

QUALITY, NOT QUANTITY, OUR MOTTO! Never yet has our supply equalled the demand for our famous "Claridge Quality" Nuclei, notwithstanding continuous extensions to our apiary. The moral is obvious—Book your orders at once! Every Comb, every Bee in every "Claridge Quality" Nucleus is produced in our own Apiary, in our own Colonies! Your satisfaction is our reward.—CLARIDGE, "Italian Specialist," Copford Apiary, Colchester. r.w.66

STRONG, healthy Italian Bee Stocks for Sale, headed by imported or home-bred Queens; delivery April, May, 1922.—DAVIDSON, Forest Road, Burton-on-Trent. w.67

COLONIES, NUCLEI.—Prices reduced. Send for Circular, and reserve your orders for BOWEN. w.69

INCOMPARABLE CREAM CANDY.—56 lbs. and upwards carriage paid; attractive price.—Post your requirements to BOWEN, Coronation Road, Cheltenham. w.68

THE ACARINE 1921 ECLIPSE PAD.—It knocks out mites and moths. By return post, 5s., post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. w.74

FLAVINE—S BEE CANDY, made in Cambridge and the wrappers bear our name, 4 lbs., 5s.; 6 lbs., 8s.; 10 lbs., 12s.; 20 lbs., 22s.; all post and carriage paid. Larger quantities at special rates.—S. H. SMITH, 30, Maid's Causeway, Cambridge. w.75

OUR ANSWER to our query of November 24 is:—"A slight difference in structure enables the Italian bee *by leg action alone* to rid itself of mites before these can invade the thoracic spiracles."—SMITH, Cambridge. w.76

QUEEN Mailing Introducing Cages, 50, 17s. 6d.; 100, 30s.; 1,000 £10; sample free.—TICKELL. w.71

SOFT CANDY, 7 lbs., 7s. 6d.; 10 lbs., 10s. 6d.—JACK TICKELL, Westbourne Apiary, Cheltenham. w.72

WANTED, a few good Carniolan Stocks for April delivery. State lowest price.—Box 49, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. w.12

"GLEANINGS" for November is devoted specially to "wintering problems." There is also an article by Dr. Phillips and Jay Smith on "The Best Queen Cage Candy." Is it not worth taking regularly? Subscription, 7s. per annum.—Agent, BURTT, Manufacturer, Gloucester. w.15

FINEST IRISH HONEY, 84-lb. keg, £5; 7-lb. tin, 10s. 6d.; 2 lbs., 3s. 9d. Cheaper grades.—84-lb. kegs, 56s. and 28s.; ½-lb. samples, three kinds, 2s. 6d.; carriage or postage paid; packages free. Special prices to large buyers.—GEORGE WHITE & SONS, LTD., Honey Specialists, Waterford. w.22

OUR 1922 CATALOGUES of Bees and Queens are now ready. Appliance Catalogues will be available mid-January. — PEARSON & GALE. Marlborough. w.13

QUEENS AND NUCLEI of world-famed American-Italian strains. A limited number of 4-framed Stocks for honey production can be supplied in early June if ordered immediately. Queens.—May delivery, selected untested Italian, 15s.; select tested American, 25s. June delivery of American fertile Queens: Untested, 12s. 6d.; select untested, 15s.; select tested, 25s. Stock guaranteed free from Acarine disease before delivery. Orders must be placed early, as delivery is made in rotation. Discount on quantities and on early placed queen orders.—STURGESS, Shenstone, Hartford, Cheshire. r.w.18

QUEENS by return from April till October.—PEARSON & GALE, Marlborough. w.14

BEES AND QUEENS.—Our 1922 Catalogue now ready. Dont's miss it! Free on application.—PEARSON & GALE, Marlborough. w.17

CARNIOLAN HOME-BRED QUEENS are more vigorous. Book now from actual breeder. Satisfaction guaranteed.—SWAFFIELD, Libertus Villas, Cheltenham. r.v.91

CANNELL, Breeder of choice Italian Queens, Aux Sièyes, par Digne, B.A., France.—A square deal, a fair price, a fine Queen. Prolific, young, well-bred Italian Queens of choicest stock delivered by registered mail, in perfect condition, within the week you select. I guarantee satisfaction or a new queen. Send a postcard to-day for my early order discount price list, and save money. Better queens than mine cannot be reared at any price.—CANNELL, Breeder of choice Italian Queens, Aux Sièyes, par Digne, B.A., France. r.v.75

ADMINSON'S SEMI-COMBS.—We can supply Nuclei on these Combs from mid-May onwards at cheapest rates.—PEARSON & GALE, Marlborough. r.v.51

QUEENS. — PRYOR Breachwood Green, Welwyn. r.v.89

HEATHER HONEY for Sale, in small or large quantities.—PEARSON & GALE, Marlborough. r.v.51

CAN YOU BEAT IT?—During 1921 we sold nearly seven hundred Stocks and two thousand Queens. Next year we hope to do still better.—PEARSON & GALE, Marlborough. v.29

BOOK NOW.—Choicest Carniolan Queens for 1922.—PEARSON & GALE, Marlborough. r.v.10

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Seasonable Hints.

The mild weather we have had lately will have caused a greater consumption of stores than would have been the case had the cold weather of November continued. In strong colonies there will most likely be a little brood, making a further drain on the stores. It will therefore be a wise precaution to put on a cake of candy, it should be of a good size—say, three or four pounds—and for preference in a glass-bottomed box that can be inverted over the feed hole in the quilt. This makes it easy to see when the candy is all consumed, and without disturbing the bees. Our boxes are about 2½ ins. deep, the glass bottom being a cleaned half-plate photographic negative glass.

Keep the entrances from 4 to 6 ins. wide, and see that they are kept clear. They should be shaded from the direct rays of the sun, or bees may be tempted out when the temperature is too low. The danger is even greater when snow is on the ground.

Should it be desired or necessary to move any of the hives, the new site should be prepared while the weather is mild; but if bees have been able to fly most days, do not move the hives at present, this can be done when they have been confined to the hive for about a fortnight by inclement weather.

One more Christmas will have passed before the next JOURNAL is in the hands of our readers, and we trust one and all will have the happiest Christmastide they have ever experienced.

A Dorset Yarn.

"The higher the human intellect soars in its conception of possible purposes, the more does it realise that such purposes lie beyond its comprehension." We who are mixed up with plant life know that without pollination there is no seed. The same with our cattle; without a male no young, yet all the clever men who have written on the production of eggs from the queen bee have it that all eggs in her ovaries have the germ of life, but without the spermatozoa of the male bee they all will be drones. It is proved over and over again that a laying worker only produces males. It all seems so different to our fowls, our cows and horses. This is far away beyond me that such things should so be. Shakespeare wrote there are stranger things in Heaven and earth than was ever dreamt of in man's philosophy.

A lady from Blandford assured me it was no more wonderful than the reproduction of the Aphis family. I remember when first I watched the reproduction of living young from the Aphis to see so many in so short a time, all being produced alive; to see some with wings to enable them to fly to other host plants, but the majority, without any wings, kept feeding on the same tree, and soon became adult, and commenced extruding living young as the others had done before. All this was brought about by the males and females mating in autumn. The eggs are left on the young growth of the host plants ready for another season, yet from those eggs come the race that, instead of laying eggs, extrude living young. Generation after generation does the same; that is the reason I quoted the phrase above, "Beyond all human comprehension." The origin of life in bees is remarkable, the thousands of eggs in the ovaries, and all so built up with the special food given to the young grub by the worker bees; this special food not only builds up the ovaries, but it also hastens maturity, for she is a perfect insect in five days less time than the worker, who has only rudimentary ovaries.

As a proof of this we notice that the drones always take the colour of the queen, and the workers are a mixture of the queen, and whatever male mated with her. It is very complex, but it is one of the things the breeder will be able to master before the queens and males are produced next season.

We have it close to the Violet Farm, where after years of cross-breeding the pure golden bees have been produced. These belonged to a naval man, who had Goldens from Mr. Sladen before he left for Canada. Just as he got them well into working hives he had to leave Portsmouth for the China station for five years, and the bees had to be left to his wife and son; then the War made another five years, now he is free, and has taken his bees in hand again. With careful breeding he has developed the pure Golden (the gentlest bee I have ever seen). All the males take the colour of the queen, pure golden; as he requeens another stock all the young bees come golden like the mother; he gives a bar of drone comb (in centre) to his hives. All these big drones are like the golden queen. He gives them a little extra room each side of drone comb, so that they can be well capped over. His method of keeping to type is in breeding the male, keep them true, then the queens will all come true. He has given a Golden to a strong lot of blacks, after the black queen had been taken away, but the blacks had a queen cell started after introducing; the young black killed off the Golden after emerging from the cell. Then a comb with queen cell from a stock of Goldens was given to these blacks, but her mating was not pure, as the drones came pure Golden and the workers like Italians. This bears out the teaching of

the clever writers on this matter, still it seems against reason. As the industry depends on breeding strong and big males and prolific queens, so as to carry on the race in perpetuity, it is well that all bee-keepers get a grasp of this matter in time.

A reason given by one writer is "that old queens exhaust the supply of male semen, which is held in a small reservoir in the vagina of the queen," and as a sequence the eggs leave the ovaries and reach the oviposter without any of the semen of the male, all having the germ of life but producing males—another concrete proof that it is wise to have young, vigorous queens. All writers advise this, and there must be a lot in it. When we have a stock that does not build up in spring quickly, it is the fault of the queen—she is either old or a poor layer, and the sooner she is superseded the better. I have taken a comb of brood out of a strong stock in April, and given it to one of these slow developing colonies. They only built up one queen cell on it, but that was what was wanted to "ginger it up."

If all this is well digested in winter, by reading and committing it to memory, you, like myself, will be wiser. As I wrote a week or two since, "Knowledge is power." "A little learning is a dangerous thing; drink deep, or touch not the Pierian spring." The one who only knows half a truth cannot manage his own, nor can he advise his neighbours. One parson said last Saturday he had for many years advised bee-keepers in several parishes what to do and where to do it, but then parsons are good at knowledge; they have to acquire knowledge before they can preach their sermons. This genial cleric is a fine type of a man, and a good teacher, though he did not give an opinion on parthenogenesis.—J. J. KETTLE.

An Appeal to Bee-Keepers of Erin's Isle.

By the time these words appear in print and have found their way to Ireland we shall be on the threshold of the Festival of Peace. May I, as one who is intensely anxious that every opportunity should be seized to promote goodwill between country and country, plead that we seize the present opportunity to clasp hands across the sea with our brethren, the bee-keepers of Erin's Isle. We are living in great days and momentous times; shall we make them still greater by a fellowship of apiculturists in Great Britain and Ireland? It may surprise some of our readers to know that there has not always been a spirit of reciprocity between bee-keepers of Great Britain and Ireland. Why, I know not, and would rather not know. Perhaps the great struggle that has been going on for centuries between the two countries has reflected itself in the bee-keeping world; it may be that Ireland has hitherto been separated from England by St. George's Channel and the gulf of misunderstanding; it may be that, as *Punch* cleverly puts it, St. Patrick banished every snake but one—the snake of mistrust—and it may be that the reptile found his way to Ireland from this country. Be that as it may, there is a future—a glorious, sunny, prosperous future—ahead of the Irish people which can become still more blessed if they, with us, learn "how good and joyful a thing it is for brethren to dwell together in unity." Have they a grievance? So have we. Have they distrustful bee-keepers? So have we. Have they trouble with bee diseases? So have we. Bundle them all away with 1921. On this Festival of Peace we will learn to love. We will see in the angel's song a message for ourselves. We will tell ourselves that the perpetuation of strife is just that which undermines the spirit of Emmanuel. We all love bees; do we love them the less for their sting? Does sting after sting cause us to hate the little creatures? Not a bit of it; we still keep bees and forget their stings. Let us forget and forgive and work together with one aim and object—a bee-keeper's brotherhood which shall be an example to the world. Lest it should be thonght that the inspirer of this appeal lives on this side of the Channel, I hasten to say it is not so. He lives where you live; he knows your lakes and mountains, your mists and bogs, your wonderful pastures and your busy towns, your heavenly scenery and your transparent atmosphere, your generosity, your humour, and wishes you would add this above all—fellowship 'twixt your bee-keepers and ours. The festal bells will soon be ringing, to you all a happy Christmas and a happier New Year. E. F. HEMMING.

Location.

Following up what was written on the wider area of "Locality," it may be well to consider the narrower range of location. Writers, ancient and modern, are unanimously of opinion that apiaries are best if planted down in close proximity to the dwelling of their owners, and it may be taken as an indisputable fact that ninety-nine out of every hundred are so located, not always from choice, but in general, as a matter of necessity, because this is usually the only site available. It is, therefore, a fortunate coincidence that so frequently this is the ideal point in the surroundings for the homes of the bees. Bees near at hand and accustomed to see daily, and at all hours of the day, the inmates of our domiciles, become so familiar with human forms, masculine and feminine, old and young, that they recognise them as friends and not enemies. Consequently, when manipulations become necessary bees are easily handled. The gentlest bees I ever knew lived in hives where the stands were placed close to a short garden path leading to the front door of a cottage, where adults and children walked, and even ran at almost all hours of the day, right up to the porch entrance. In such a position any swarms coming off were certain to be seen and brought under control before they thought of

decamping. As soon as they began to settle a straw skep was placed over the cluster on an adjustable tripod, even by one of the children, and shaded by the inevitable "white sheet," so a runaway swarm was seldom or never heard of, a very great advantage in the days of straw skeps, when people counted their bee wealth by increase alone. Naturally, thieves or marauders never attempted to put forth their hands and steal either bees or honey

What snugger location could be found for an apiary in the way of protection, than some path in the home garden. The bushes, shrubs, trees, or hedges serve admirably for shade and shelter, the garden walks, with the rows of hives placed with their backs to these open spaces, allow of easy manipulations even in modern hives, and the clear spaces in front afford an unimpeded flight. Each hive has there, generally, a distinct individuality, because between every pair there is a clearly marked separation. Bees under these conditions seldom mix to any extent, and even queens returning from their marital flights adopt their true home. The distinct demarcation serves effectively in securing safety.

However well our gardens may be stored with pollen bearing or even nectar-yielding flowers, contrary to preconceived notions of the general public, or even to the more restricted conceptions of many bee keepers, these plants are little more than a drop in the bucket when compared with the sources of the neighbouring fields. Bees often ignore plants very close to the hives, and wing their flight direct from the floorboard to a considerable distance before they begin foraging.

The flight of the bee is proverbial, and spoken of thus it means a straight line, but it is by no manner of means an undeviating one. The workers have the art to seize on such adventitious aids as wind currents favouring their homeward journey, and at times they even go out of their way to accommodate themselves to such assistance. Another reason for the bees favouring one direction more than another is the fact that the prevailing winds carry the scent of the nectar from an area of clover or heather down towards the hives. The foragers have thus the advantage of making their outward journey against the wind with uncharged honey-sacs and empty pollen baskets. Coming home with either or both of these receptacles heavily laden, their labour is very greatly lessened. Following the scent they are induced to wander further afield, and, as a consequence, greatly enlarge their foraging flights and the area of their nectar-bearing pursuits. The late Mr. Doolittle maintained that, led on and on, the bees for preference carried nectar from the American limes from as far a distance as six miles. I have, however, expressed a preference for a flight of about two miles, and certainly for not more than four miles from their hives under the most favourable circumstances.

I was much interested recently in making a rather prolonged hunt for some facts and figures in back volumes of the JOURNAL, to turn aside and observe the various arrangements of a goodly number of apiaries, as they are reproduced in the "Homes of the Bees," illustrated and described, and I would advise anyone who is planting down a new apiary to make a study of these. Not only the hives shown there, but the stands and surroundings are all worth careful observation. Individual stands are all but universal. Legs from 6 to 9 inches, some 12 inches high, are the most common. A clear flight is almost invariably arranged for, most hives have a porch. Shade and shelter are commonly provided, but not much of the first, as a rule. The hives are generally arranged in rows, with a considerable number of variations to break the even monotony of a straight line. As a rule, they stand in front of a path giving accommodation for easy and comfortable manipulation of the hive interior. Very generally flowers are planted between each hive stand, with the view of adorning the general pictures of the apiary as a whole. Flowers and bees go well together.

When ancient and modern practices coincide, I like to quote, so there follows the gist of Columella's recommendations as to location. It has stood the test of about 2,000 years: "The hives should be placed facing the south in a place neither too hot or too much exposed to high or cold winds. It should be in a valley, in order that the loaded bees may with greater ease descend to their homes with their heavy loads. It should be near the dwelling-house on account of the convenience of watching them, especially at swarming time. It should be so situated as not to be exposed to noisome smells or to the din of men or cattle. It should be surrounded by a high hedge, wall or fence, situated near a running stream, or with water within easy reach, because they are not able to rear their young without water; yet the neighbourhood of ponds, lakes, or large rivers should be avoided as being destructive of bee life. The garden or surroundings should be provided with bee plants, and the bushes, shrubs, or trees planted near should be such as will aid in honey production." All these directions are sound, practical, and business-like in modern, as in ancient times.—D. M. MACDONALD.

Questions, &c, for Bee-Keepers for Self-Examination.

609. Describe a swarm-catcher for capturing a swarm settled on, say, a high branch of a tree.

610. By what procedure may nuclei be united?

611. How may bees be encouraged to swarm early?

612. Define follower, metal-end, fence, bee-way, separator, dummy, rack, T-super, excluder, driving-irons.

613. How may the presence of honey-dew in a comb of honey be detected?

614. What are the characteristics of a good strain of bees?

615. Describe in detail how a colony of bees in a skep may be put into a frame hive.

616. What should be done to secure a surplus from a honey-flow from fruit trees?

J. L. B.

Bee-Keeping in S.W. France.

By A. Richards.

(*Continued from p.* 586.)

The next morning we were up and off betimes, entrained for Lavadac. Crowds of holiday-makers were on the move, and we were reminded of our morning struggles in the suburban trains for London. We passed through some of the best plum country of France, where the land was rich in every sort of bee forage excepting heather, and where at times a large surplus of plum honey is gathered, these, with acacia, sainfoin and clover, providing a rich harvest right into the summer.

M. Couterel is one of those energetic gentlemen who never stops still; when he is sitting down, apparently quiescent, he will suddenly shoot a question at you or propound, with a note of interrogation, some problem he has been ruminating upon, and answer it himself with a further interrogation while you are trying to get a proper grip of it with the teeth of your imagination. Then he drives and repairs his own car; the former he does on the principle that the quicker you go the sooner you will get there, and as he is both hale and hearty it has proved entirely to his own satisfaction hitherto. Some of us, however, began to get the wind up a little as he whizzed us round the corners on two wheels at forty miles an hour, to the accompaniment of a screeching siren hooter calculated to make the hair of any natives permanently assume the perpendicular if they should happen to hear it at close quarters on a dark night. Then he is a wonderful cook; in fact, a gourmet, and had our stay been prolonged we should have been in danger of losing that elegant slimness of stature which some of us are so proud of, for the dishes laid before us were so numerous and so alluring. Above all, however, M. Couterel is a real bee-master; he knows his bees thoroughly, a student of the written word, a writer himself, a close observer and a practical scientific thinker. He works along the lines of honey production, and as we look upon the poultry-keeper who endeavours to succeed in the profitable production of eggs as working more directly for the real thing than the one who is producing birds for others to try to run for egg production, so we feel we must admire him, chiefly because he keeps primarily and always before him, as his one aim and object, the profitable production of honey and its by-products.

Directly upon our arrival at his house his car came into commission, and took us to the nearer but smaller of his two apiaries, situated on the side of the river bank, about 50 feet above the water. Here he has about thirty stocks in bar-frame hives Facing the hives, beyond the river, the land is used for pasture and farm crops, providing ample spring and summer forage, while behind, stretching away for over a hundred miles, is the pine forest, with an endless supply of heath and heather, which, beginning in the month of June, continues right on until the middle or end of October. At Barbaste, the nearest village to this apiary, we saw the remains of honeycomb hanging high up from below the projecting branch of a tall forest tree. The empty outside combs were all that were left, but M. Couterel informed us that the bees and the main combs had fallen down into the river

M. Couterel, his Assistant, and Mr. W. Herrod-Hempsall.

below during the winter owing no doubt to the weight of the honey in the comb, but that the colony had been established continuously in the tree for the past four years. This will serve to convey to our readers some idea both of the salubrity of the climate and the abundance of available stores.

M. Couterel has three well-built sheds at this apiary, two for the storage of utensils, etc., and one for working in. Here is a bench and extractor, water is laid on, and the pine forest behind provides fuel in abundance. The sheds are built on solid concrete floorings, with water channels round them to keep the ants out, and every detail of structure has been carefully planned and thought out so as to make every operation easy to perform. The hives he has established are rather smaller than the Dadant Blatt, as he has come to the conclusion, after many years of experience, that it is better to use a frame with a 14-in. top-bar and an inside depth of 11 ins. in preference to the Dadant Blatt,

Perhaps the writer may be permitted to express a private opinion of his own, which is that this frame of M. Couterel's would, other things being equal, probably in the average be better in some of the really best honey districts of this country than is our own standard frame, but anyone venturing to experiment must be prepared for disappointment, and remember that not only is our climate far more variable but the duration of the harvest here is also much shorter. M. Couterel's average take from 90 hives last year was 172 lbs. per hive.

There were several springs of running water coming out from the rocks below the apiary, and it was a joyful sight to see the crowds of bees drinking in the warm sunshine at these sheltered pools.

M. Couterel has ninety frame hives at his main apiary and thirty at his second. Winter feeding, either for stores or for stimulation, is, of course, unknown; in fact, the greatest danger arises from the possible difficulty the queen may have in

M. Tauzan's Boumac Apiary.

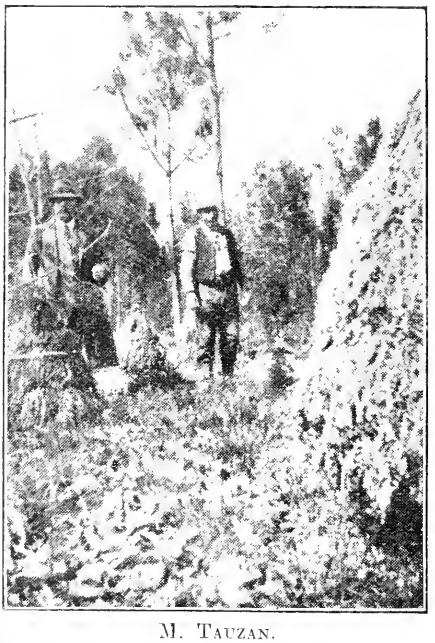
the one almost universally used throughout France, and which measures 16½ ins. by 11 ins. Foundation is very little used; the top-bar of the frame is made with the point of an angle on its underside, this angle is dipped into a long, narrow bath containing molten wax, and the bees build straight on to this. This frame of M. Couterel's with the smaller top-bar is much less unwieldy to handle, and will probably induce the building of straighter combs than is possible with the Dadant Blatt; it is also much easier to extract from, and we were given to understand that practice confirms the theory that the smaller brood nest provides a cubic space where the heat is sufficient throughout for the raising of brood with the assistance of the minimum of covering bees, and is at the same time more suitable in that climate to the average capacity of the queens than are our small standard frames with a depth of 8 ins. only, or the larger Dadant Blatts, with the long top-bars in addition to the 11-in. sides.

finding sufficient empty cells in the spring for ovipositing, so little being consumed during the short mild winter. This is, however, compensated for by natural laying being continued longer, leaving more and younger bees to carry through that short winter and start the early spring work.

It was well into the afternoon when we returned to Lavadac for our midday meal, after which we were taken in the car for a spin round the country, with the bee-keepers' eyes open for forage possibilities; on this journey we saw endless supplies of heather in every direction. We returned home for the evening meal, after which midnight found us still discussing the craft and comparing notes on the different methods of gathering and dealing with honey and their relative suitabilities to the countries and climates. In France section honey is practically unknown, but, France being a wine-drinking country, good hydromel has a fairly ready sale, which is gradually extending, while its introduction here for general use is at present

a commercial impossibility. As, however, I deal with the problem of honey gathering and hive structure in relation to the climate of Lot et Garonne in other parts of this account, I will refrain from discussing it here.

There are numerous bee-keepers throughout the district possessing anything from fifty to two hundred stocks in the wicker and dung hives before mentioned. The bees are what are known as the ordinary blacks, but which I prefer to describe as the lighter variety of black bee, to distinguish them from the large and distinctly black variety formerly prevalent in many parts of England and Wales, but seemingly becoming scarcer every day, due, no doubt, to the regular stream of Italian blood which has flowed steadily into the country during



M. Tauzan.

recent years. Although these bees could produce excellent comb honey, there appears to be no demand for it whatever, nor are these dung hives adaptable for supering as are the flat-topped skeps of England, and with the exception of some old wooden derelict hives we saw left behind at a deserted mansion, we encountered no other wooden hives except those in the possession of M Coutered all the while we were in Lot et Garonne.

(To be continued.)

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of November, 1921, was £10,147. From a return furnished by the Statistical Office, H.M. Customs

Gloucestershire Bee-Keepers' Association.

A most successful Honey Show was held on November 9, 1921, in connection with the County Root, Fruit and Grain Show of the County Educational Sub-Committee, at the Shire Hall, Gloucester. There was a large number of exhibits, and the quality of the honey and wax was very fine.

Mr. E. Graham Burtt kindly took charge of an excellent microscope, and showed slides of *Tarsonemus woodi*, and various parts of the anatomy of the bee. This proved a great source of interest.

The following is a list of the classes and prize winners:—

1. Best trophy of honey above 50 lbs., but not exceeding 100 lbs.—1st, W. J. Goodrich; 2nd, A. H. Bowen; 3rd, J. Tickell.

2. Best six sections of honey.—1st, A. H. Bowen; 2nd, W. J. Goodrich; 3rd, J. Tickell.

3. Best six bottles of light honey.—1st, A. H. Bowen; 2nd, J. E. Swaffield; 3rd, W. J. Goodrich.

4. Best six bottles of medium honey.—1st, A. H. Bowen; 2nd, Rev. Sangar-Davies; 3rd, J. Tickell; h.c., W. E. Wigmore.

5. Best six bottles of dark honey.—1st, W. J. Goodrich; 2nd, J. E. Swaffield.

6. Best six bottles of granulated honey.—1st, W. J. Goodrich; 2nd, J. Tickell; 3rd, A. H. Bowen; h.c., A. O. Woodroofe.

7. Best two shallow frames of honey.—1st, A. O. Woodroofe; 2nd, J. Tickell.

8. Best exhibit of comb honey in bell glass or other receptacle.—1st, W. J. Goodrich; 2nd, A. Collett.

9. Best six sections of honey (for those who have not taken a first prize before).—1st, A. O. Woodroofe.

10. Best six bottles of extracted honey (for those who have not taken a first prize before).—1st, Arthur J. Price; 2nd, E. S. Sinnott; 3rd, E. W. Kauntze; h.c., J. Smith.

11. Best sample of beeswax in any form, exceeding 1 lb. in weight.—1st, A. H. Bowen; 2nd, J. Tickell; 3rd, W. J. Goodrich.

12. Best two 1-lb. cakes of bee candy.—1st, W. J. Goodrich; 2nd, A. H. Bowen; h.c., J. Tickell.

13. Best cake sweetened with honey only.—1st, Miss Hiram.

14. Best biscuits sweetened with honey only.—1st, A. Collett; 2nd, Miss Hiram.

15. Gift class for Gloucestershire Royal Infirmary: 1 lb. bottle of extracted honey.—1st, A. H. Bowen; 2nd, J. E. Swaffield; h.c., Rev. Sangar-Davies.

16. Gift class for Gloucestershire Royal Infirmary: best 1-lb. section of honey.—1st, A. H. Bowen; 2nd, J. Tickell.

The silver medal of the B.B.K.A. was awarded to A. H. Bowen, the bronze medal to W. J. Goodrich, and the certificate of merit to J. Tickell.

The judges, who performed their duties admirably, were Mr. Leedham, Worcestershire B.K.A., and Mr. E. J. Burtt, Glouces-

tershire B.K.A., and for the cakes and biscuits, Miss Baddeley, Gloucestershire School of Science.

The show was held in the Oak Room, a beautifully panelled room, by kind permission of the County Authorities.

During the summer several interesting meetings have been held in different parts of the county by kind invitation of members. These have been much appreciated, and form an important part of the work of an Association.

EDWARD J. BARTLEET,
Hon. Sec., G.B.K.A.

Preparing for Heather.

Some months ago you had considerable correspondence on this question in your columns, and I wrote asking why so many advocated re-queening just before heather season, and giving reasons why I thought this either a mistake or unnecessary. As no one has answered my "query," I am compelled to conclude that it was unanswerable. I will now give my experience with a stock sent to heather last August 8, a grand lot of bees, headed by young unfertile queen (it had to be her or none), put on ten frames of empty comb July 20. Waited for signs of fertility until August 8, when two combs had small patch each of eggs. Sent to heather same day. Result, a dozen sections full of honey, all usable, but only four saleable, as others were not sealed sufficiently. Nine brood combs nearly solid with sealed heather honey and the tenth half full. Bees now cover eight combs. I might add that when sent away the combs held just about enough clover honey to carry the bees on for a bare week.

I do not want your readers to be under the impression that I am advocating this "style" of sending bees to heather, but that I am trying to uphold my contention that a good lot of mature foraging bees is the main step towards securing a heather honey harvest, and that the fewer bees reared while at the heather the better.

The real ideal stock for the heather is one containing from six to eight combs of sealed brood, all hatching if possible, and for frames none deeper than the standard; but, before all, a very strong lot of adult workers that will go right for the heather as soon as liberated.

Above result will compare at least favourably with many of the reports you have published, I think. Unfortunately, I missed nearly first fortnight of heather through having to wait for eggs. In an ordinary season the date would have been alright, but this year the heather was just about a fortnight earlier than usual. Judging by the strength of the stock at the present moment, there must have been a big batch of early brood reared. If there had been less of this, as there would have been had the queen done a season's laying, I am thinking there would have been more sections filled.—ROBIN HOOD.

CORRESPONDENCE

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Warwickshire Bee-Keepers' Association.

[10595] With reference to the correspondence on above, some years since, in 1918, I think, I wrote you on this same subject (letter 9598). Mr. Jones is not known to me, but I know that he and myself are not by a long way the only bee-keepers in the district of the same mind.

When you were good enough to publish my letter I was not so fortunate as Mr. Jones in drawing a reply from a member or an official of the W.B.K.A., but instead, after some weeks, got a reply from an old and respected correspondent of your worthy Journal, who resides miles from the district referred to. However, as he "took up the cudgels" on behalf of the W.B.K.A. it proved to me that he at least was interested keenly in bee-keepers generally; consequently, although his remarks were rather more sarcastic than my letter called for, I took his advice (see letter 9645, April, 1918) and joined the W.B.K.A. to see if I could move them.

As they only have one meeting per year my chances were remote. The annual meeting was called at about 3 o'clock one afternoon, and I duly attended, at great inconvenience. There were only eight members present, and I think myself the only one outside the committee.

The committee were elected *en bloc*. I tried to make some remarks *re* the work of the committee, and at once got "shut up" from the chair. The only other communication that year was, "The Expert will call on his autumn visit," which he did at 7 o'clock, nearly dark, one evening, with apologies for being so late. Needless to say he *did not* see my stocks.

The call to the next annual meeting, at the same time of day, was received: there were about ten members present, mostly committee. I made myself known as the writer to the "B.B.J.," and stated my object in being there. Result, the chairman promised to consider my suggestions at next committee, the chief of which was "The forming of meetings of local bee-keepers all over the county." Nothing further was heard from them, except a postcard saying the Expert would call if I requested him to do so. Now, sirs, what can one do with an Association like this, where committee are three or four to one of members present? I blame the members, if there are any. Certainly there are few keen ones. My first impulse was to get about 12

members at the next annual meeting and clear out the lot, but it seemed too dirty a job, so I let the W.B.K.A. slide.

I wonder how many of them read your letter in the RECORD for January, 1919? One question I should like to ask: Are there enough keen beemen in Dorridge, and say five miles round, who would like to form a mutual club of their own? If so, will they send their names to—WM. GOLDSMITH, Chadwick End, Knowle.

Hive Making.

[10596] I was glad to see the remarks of Mr. Fox in last week's JOURNAL, and have no quarrel with what he says, but, in writing for beginners, we must go slowly. Better an occasional bit of comb between the frame end and the hive side than that the frame side should be propolised to the brood chamber. This often happens when the space between one and the other is too small. With regard to Mr. Fox's general remarks, I shall deal with them week by week. Many letters have reached me on this subject from numerous would-be bee-keepers. I hope to answer all in due time, and make use of one or two suggestions. It has been my misfortune to meet scores of people who have dabbled in bee-keeping and then lost all interest in the craft. As I develop my subject I do not think Mr. Fox will have much to quarrel about, but I shall always welcome criticism of the sensible type, such as his.—E. F. HEMMING.

Bee-Keepers' Brotherhood.

[10597] I should like to register my approval of your scheme to form a Brotherhood of Bee-keepers. I am no artist, but above is my idea (in a rough way) of a suitable badge. The circle to be white enamel, with navy blue lettering, and the bee, as far as possible, in natural colours. I think all members should undertake to do a good turn, either by advice or a helping hand—in fact, be a brother to any other bee-keeper he may meet.

Assuring you of my support and with best wishes for the success of the Brotherhood. —ARTHUR P. FELLINGHAM.

[The sketch shows a worker bee in a circular badge, with the words, "Brotherhood of Bee-keepers" as a margin.—EDS.]

[10598] The suggestions in your Editorial *re* the Brotherhood of Bee-keepers are good. I would suggest as a badge a brown bee (a worker this time, please) on a blue base edged with gold. A large badge would be unsuitable, but it should be neat. The sketch is very crude, but will convey my idea.

Why should we have even a few simple rules? It is already recognised that bee-keepers as a rule are "hail fellow, well met": more than that I think is not needed.—F. D. HILLS.

[The sketch shows a worker bee in the centre of a diamond-shaped badge.—EDS.]

Contagion or Infection.

[10599] With reference to the controversy between yourself and Mr. J. M. Ellis over the use of the words "contagious" and "infectious" ("B.B.J.," November 17 and 24), may I be permitted to say that for a sound explanation of a technical or scientific term it would be better to refer your readers to an appropriate manual or text book rather than to Webster's Dictionary.

In Moor and Partridge's "Aids to Bacteriology," I find the following under the heading "Methods of Infection":—

"*Contagion* was the term applied to infective matter when contact with a diseased person was supposed to be necessary for the acquirement of the disease, while if contaminated matter was conveyed aerially it was known as *infection*. At the present time distal aerial convection is seriously entertained only in regard to smallpox, and even over this disease opinions differ. *Now no distinction is made between infection and contagion*, and it is usual to class diseases associated with micro-organisms as 'infective.'" (Then follow the principal methods of infection.)

Mr. Ellis is, I consider, quite correct in his use of the word "infectious."—M. K. WATT.

[It was clear in the quotation we gave that there is a difference of opinion among authorities. It is quite likely this has come about through a looseness of expression years ago, which has in many instances been persisted in until many people look on the terms as synonymous. We have the same thing in bee-keeping terms; to give only one example, numbers of bee-keepers call a division board a dummy, and do not know there is any difference between the two. In the *Bee World* for May, 1921, p. 145, Dr. J. Rennie writes:—"The whole of the earlier experimental investigations which I carried out with other workers, in which healthy bees were placed in hives previously occupied by infected bees, yield negative results as regards infection, and, later, I have failed to find living *Tarsonemus woodi* on frames or other parts of hives apart from the living bee. The evidence, on the whole, points strongly to this disease being almost entirely a *contagious* one carried by the living bee." We quite agree with Dr. Rennie. The facts given by him are well known, and would not happen if the disease was infectious.—EDS.]

County Bee-Keepers' Associations.

[10600] I have read with interest Mr. T. Alun Jones' article in your issue of November 17. He is not exactly kind to his own Association (which he rightly calls "one of the best"), or to C.B.K.A.'s in general, when he advertises the fact that the direct benefit he has gained by being a member is not great. To my mind such a statement is not likely to help to make new members, or retain old ones. If Associations are to be of any use at all they must be strong. It seems to me that the "treats" referred to ought

to be counted as very great benefits. What more can be expected for a small yearly subscription?

With regard to the "General Honey Agency and effective honey adverts.," Mr. Jones says that so far as he knows the only help his Association is able to give its members in connection with buying or selling is to supply them with County Honey labels. I notice that in the 1920 Report of the Association in question, "Members having stocks, swarms, or honey for sale, or wishing to purchase same, are invited to send particulars." I did so, and obtained greater help than a mere supply of honey labels would have afforded. It would be interesting to know whether Association officials in general find that there is an insufficient demand for the supplies of which they have been advised. Judicious advertising would certainly stimulate the demand, and I think that if honey were advertised in local papers in the name of, and at the expense of County Associations the demand would probably exceed the supply. County Association Honey labels are very helpful, and, in my opinion, if a small well-written label or pamphlet on the lines of "Directions for use" were to accompany each bottle sold it would help to secure repeat orders. So many people think that honey ought to be kept in the medicine cupboard instead of in the larder.

The idea of a Department of Agricultural Statistics doesn't appeal to me. Figures can be made to prove anything, and compiling statistics is a costly job. I cannot see that Associations can be of very great use in giving advice officially to intending purchasers. Advertisers in the "B.B.J.," etc., blow their own trumpets very well, and which Association is to say who shall be helped to blow louder than his competitors.

At our last annual meeting there were some who pressed for a re-organisation of the Association, but from the discussion which ensued it seemed very obvious that the existing machinery was not being used to the best advantage. Local secretaries came in for some adverse criticism, and possibly as a result those still in office will have increased the membership in their districts. We shall see! *Our Association is all right*—it is the *individual members* who need to "shake themselves." FLINTSHIRE.

Honey Granulating.

[10601] I notice that honey gathered in this district this year granulates very much more readily than usual. That extracted in May and beginning of June was solid in August, and the later gathered honey granulated in about three weeks. With respect to comb honey I have kept sections for two years without a sign of granulation, whereas a fortnight ago I cut one which was almost solid. It occurred to me that if the same thing is going on inside the hives, very careful watch will have to be kept to see that the bees are supplied with suitable food for the winter. Possibly a word of warning to beginners in your "Seasonable Hints" would be appreciated.—A. E. GRIMSHAW.

[We do not see how it is possible to find out if the honey left for stores is granulated without disturbing the bees, which would do more harm than taking the chance of the honey being granulated. If there is any doubt on the matter candy should be supplied. Granulation is most likely to occur in those districts where there has been a lot of charlock in the fields, or where vegetable seeds are grown.—EDS.]

Does Bee-Keeping Pay?

[10602] As a regular reader, I have been interested in the "Bee-keeping Pay" articles, and I should like to have published an instance which came to my notice this year.

Workman finds runaway swarm early in July, wife goes with him in evening for same. Bees secured in skep and set up in garden. Wife's new 10s. 6d. shoes ruined by wet grass.

Bees work hard for a month; idea of transferring to frame hive grown. Frame hive bought, with frames and foundation; assistance of a local man of eminence secured to drive bees. Operations commenced. Bees refuse to leave home; as last expedient eminence bangs skep down right side up on top of frames. Bees and honey float out through frame hive entrance. After many days, basinfull of cleaned up bees remain.

Bee fever now high. Bees for sale five miles away. Workman goes, buys three stocks—frame hives. Goes again, and fastens them up for removal. Late owner starts in morning to load. Some bees get out, and one hive is dumped in the garden, and two arrive at new home. Workman's wife cycles off to open dumped hive, as weather hot—August. Veiled and gloved, removes perforated zinc; bees fly on to open-work stockings, and stings in dozens. Workman's wife goes unconscious in few minutes. Doctor wired for, late in day doctor takes workman's wife home suffering from heart attack and shock. Assistance got to nurse, and in a fortnight workman's wife fortunately in usual health.

By this time crawling observed in new bees. Remedy hurriedly sent off for. Sprayer bought, and remedy, which had to be mixed with sugar syrup, was sprayed on the combs, a fresh assistant holding combs up in a bright sunshine. Stings plentiful, and robbing commenced in earnest. In a week only one stock remains. Workman and assistant having assumed normal proportions, dumped hive to be brought home. Workman cycles over and fastens hive again. Bitter frost and wind now prevailing. Late owner arrives next morning with thousands of chilled and dead bees in float bottom, hive having slipped back on floorboard, and every bee that flew on the journey lost. Stock weak to doubtful wintering. Late owner will, on returning home, send workman's wife's bicycle to grocers in local town, same having been left behind on her seizure. Workman's wife a few days later goes to grocers—no bicycle. Goes home, and

writes late owner of bees—Yes, bicycle left. Workman cycles to local town—no bicycle. Cycles another three miles to late owner—Yes; left it in the grocer's yard, but didn't see anybody. Workman cycles home five miles. Now very dark and windy. Will go and visit village constable—two miles. Going over iron bridge, wind removes new 6s. cap—never seen again. Two miles back. Does bee-keeping pay?

BALANCE-SHEET.

Gains.

New skep.
Frame hive for driving.
Frame hive robbed out.
Two weak stocks in frame hives.
One sprayer.
Much experience.

Losses.

One pair of shoes.
One swarm.
One wife (nearly)
One stock.
One remedy, "I.O.W." disease.
One lady's bicycle.
Two half stocks.
One gent.'s cap.
Much energy.
Much money.—J. G. Nicholson.

[But can the above be described as "bee-keeping"? The experience would not be so amusing to the workman as it is to the reader of this chapter of accidents. It shows the disappointment caused by not commencing in the right way. We trust workman's enthusiasm will not be so damped that he will give up. Another year, with a better knowledge of his bees and their management, he may be able to recover all he has lost.—Eds.]

Bees Disappearing.

[10603] D. S.'s experience with dwindling bees has been paralleled by my own. In my case, however, I think that the trouble was not due to swarming, but to robbing. Two of my hives were affected during the past season, and in both of them there was plenty of room for the bees. Breeding had stopped during the continued hot weather, and absence from home precluded me from taking requisite precautions, with the result that, instead of full hives, the two stocks dwindled to covering only five combs each. Robbing was rampant among the bees, and wasps were more than ordinarily a nuisance, both robbers and wasps having a lengthened season due to the extraordinary weather.

On examining these stocks in the early part of October I found in each a tolerable amount of honey and little more than one comb of bees. There were no signs indicative of a robbing raid having taken place.

The conclusion arrived at by me was that attacks had been made in force by would-be robbers, and that a good defence had been made, but the ranks of the defenders had been decimated, the bodies of the slain having been either blown away or disposed of by wasps.

The wasp nuisance has been serious during the season, especially to those bee-keepers who were obliged by business to be away from their apiary for considerable periods. Wasps raided two of my four-frame nuclei and cleared out all the bees. There was no doubt as to the culprits, as, although too late to save the bees, an examination discovered the marauders busily gorging on their ill-gotten gain.

B. C. Dexter.

Annual Sweet Clover.

[10604] The few remarks which I made upon the new annual white sweet clover (Hubam), and which you were good enough to publish in your valuable Journal, has brought me so many inquiries that I hope you will be good enough to give me the opportunity to explain the situation to your readers.

The seed of this clover is not yet being handled by the seed merchants; it is still in the hands of a few growers for purposes of increase. It will be a couple of years probably before any large quantity is available for general purposes.

In response to many of your readers, I have secured a small quantity which I can guarantee to be from the original source and scarified.

I am reserving it for distribution amongst your many patrons and friends at cost price, viz.: 12s. (twelve shillings) per lb., 6s. 6d. per ½lb., 3s. 6d. per ¼lb., 1s. per oz. Postage extra; cash with order.

It is generally sown with us at the rate of 8 lbs. per acre without a nurse crop, as early as possible in the spring.

The quantity is limited and orders will be despatched in rotation. English stamps and postal and money orders are *not* negotiable in Canada. Drafts upon the Canadian Bank of Commerce at Salmon Arm preferred.—P. Wilfrid Chapman.

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FINEST SUSSEX HONEY, in 1-lb. glass jars, screw tops, 22s. 6d. dozen.—MISS PALING, Golden Square, Henfield, Sussex. w.63

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COMPLETE MODERN APIARY FOR SALE, consisting of 40 strong Italian Stocks (1921 Queens), in nearly new 13-frame Hives, zinc-covered roofs, each hive fitted with excluder and two supers; 4-frame Extractor, Ripener, Feeders, etc.; carriage paid in Great Britain; April delivery; £300, or near offer.—Box 48, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. w.11

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QUEEN Mailing Introducing Cages, 50, 17s. 6d.; 100, 30s.; 1,000 £10; sample free.—TICKELL. w.71

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Orders booked now for April Stocks. Catalogues now ready. PEARSON & GALE, Marlborough.

A Parting Word.

In this last issue of the JOURNAL for 1921 we take the opportunity of thanking all those—writers, readers and advertisers—for their kind help and support during the past year. We hope to merit a continuance of the same in the coming year. We have no great change in contemplation, but we are always pleased to receive suggestions, which, if not acted upon, always receive serious consideration. We hope to make arrangements to publish weekly a bee-keepers' calendar, with a motto appropriate for every day. This has been compiled with great care by Miss I. H. Jackson; the mottoes are also arranged to be appropriate to the season.

Although the past season has been so dry, bees have on the whole done well, and the honey has been of excellent quality. A feature that has struck us has been the absence of honey dew. Usually when there is a spell of dry weather in June this bane of the honey producer is very much in evidence, but this year there has been very little. It is also pleasing to note that epidemic diseases have not been so prevalent, with, perhaps, the exception of foul brood; and this, judging from the larger number of samples sent for examination, has increased a little. We shall not be surprised if there is still more of it during the coming year. A careful watch should be kept for the first symptoms; if these are noted in time, it can generally be scotched.

The Great Reaper has again taken toll of those who have made a name in the craft. The veterans pass away one by one. They have done good work, and carried out the tradition of bee-keeping to always do one's best to improve methods, and when a good thing is evolved to pass it on for the benefit of bee-keepers in general.

We are looking forward to a good season for all in 1922, and to a further advancement of bee-keeping generally. There is still much to be done in various directions.

"The Bee-keepers' Record."

In our monthly, THE BEE KEEPERS' RECORD, we have during the past year been running an essay competition each month, with prizes of 20s., 15s., and 5s. This has not received the number of entries we expected, but we hope to continue it during the coming year. There is no entry fee, but essays must be accompanied by a coupon printed on the cover. Further particulars will be found in the January number.

The "B.B.J." Ideal Candy-making Thermometer.

We have a supply of these thermometers now ready. We are also pleased to say that by arrangement with the manufacturers we are able to reduce the price and can supply plain tubes for 4s.; on brass frames 5s., both post free and packed in a neat cardboard case. We recommend the brass frames, as the tube being protected it is not so likely to be broken. The frame is also plain, neat and easily cleaned.

The thermometer has been specially designed for candy making, and is as "fool-proof" as it is possible to make it. There are only two marks on the scale, one to which the candy should be boiled, another to show the point when it is cool enough to commence stirring. These are both engraved *on the glass* and are *accurate*. There are no calculations to be made as on the ordinary sugar boiler's thermometer with a full scale of degrees, and not always accurate. A recipe for candy and full directions are sent out with each instrument. They can only be obtained from this office. As they are being sold at cost price it is not possible to supply appliance dealers.

A Dorset Yarn.

When taking a look at the Bournemouth shops at Christmas time, with time to call at the different shops who had bought fruit and honey from the Violet Farm, I noticed the samples of honey that are set out for sale. They are an object lesson to all bee-keepers. At one shop, which sells fruit and vegetables, milk, butter and eggs, with honey in jars, I asked my friend where he had purchased this lot. He told me from one of the large dairy monopolies in a near county. He also told me it did not sell freely, which was not be wondered at; it looked very much like objects kept in alcohol that are to be seen in museums.

Now that county sends out some of the finest honey. I have seen it in my office, some as clear as crystal, some as it gets firm one could cut out in cubes, but this lot that was put up for sale, labelled "Pure Honey," was very different from the same county honey. Some of it was clear, but all through the centre it looked like a coiled mass of articulations. This proves it to be

a lot of honey from many sources, which have been blended to add flavour to the whole, and as the cold gets to it some of it gets firm and some does not. I dare say many readers of the JOURNAL have, like myself, added a little more to a bottle that was not quite full enough; if this is from another extraction it will go down the centre of the whole, and never blend with it. I have seen it granulate in the centre, while the other will keep clear a long time. One would not say this was adulterated, yet the honey producer would know that other honey had been added to it. This great dairy monopoly sold the stuff, but they did not attach the company label, only "Pure Honey," "Pure White Honey," "Clover Honey." Now the honey that was brought to me from that county of clover and sainfoin was entirely different to that which was up for sale in Bournemouth. As an article of food it did not look attractive. I can quite understand why it did not look good enough to sell well. Now it is up to our county associations to label all our honey as it is sold with the county label, which is a guarantee of honesty. Honey as harvested in this country is a good food, but honey from some parts of the world where it is pressed out of combs that may have large quantities of brood in it at the same time cannot be a good food. It may be this that makes the peculiar appearance in the bottles of honey exposed for sale as "Pure Clover Honey." Anyway, I can make this assertion, it is not clover honey as we get it in Dorset.

Extracted honey has a great future before it, if we can get the public to see that it is a good article of food, if we can educate the many to use it for its high food values. Some never stock it only for sore throats, but no one would buy it as a luxury if they see it as it is in Bournemouth this week. The great weight per hive of extracted honey compared with comb honey is more than doubled in a given time. "A super of bars has been filled before the bees have gone up into sections"; this is as it has been told me. The great weight per hive can only be got from strong stocks. As one says: "I never let them swarm—at least, not these last two years, since I have got older and wiser." I have written before how, as a lubricant for the throat, when out to entertain an audience, for staying power I have never found anything better than honey; when yarning on bees or horticulture honey is the best for me. I learned thirty years ago that honey was the best lubricant for elocution. There is an old saying: "An apple a day keeps the doctor away." Change "apple" for "honey," and you will live to a good old age, without big cheques to pay "for medical attendance."

One book tells me that glucose, cane sugar, and invert-sugar are used for adulteration of honey. Personally, I am not clever, and could not tell by appearance what is in honey, but, judging at shows, have come across some that is very like sugar in taste. I have noticed this at summer shows. It was dense enough, but the taste was more sugar than honey. Glucose (according to a small encyclopædia) is made from starch; it means "sugar dextrose," made from maize and potatoes; should hardly expect that this should be given bees to eat.

I always feed in April (out in the open) with loaf sugar and boiled water, with firm honey and boiled water, even though we have quantities of gooseberries in bloom at that time. I feel that they want so much moisture at that time, because they are to be seen in crowds where the moisture comes out into the road down a steep hill where the 40 feet of gravel finishes and the clay begins. The water runs the whole season in the ditches each side of this road, but we have never tasted sugar in sections, they do not get into them till the second week in May. We have had a full rack at the end of third week, and have made these up by the dozen by taking some from several hives on the third week in May for sale. I cannot get them to use water close to the hives unless it is sweetened with honey or sugar; they will always go where the water oozes out among the stones. I have known them in May empty an iron boiler of rain water that was in the open, by resting on the sides to sip it. Why this preference for rain water in an old boiler? I suppose the sun had warmed it somewhat. It is also slightly warmed as it oozes between the stones on the slope of the hill. The jars of honey that are put up for sale with the ropy appearance are to me monstrosities; have never had anything in all my time like it. It has no appearance of English honey whatsoever. The sample of 30 tons sent me from Australia has nothing of the appearance of this, though it has not the flavour of our Dorset harvest, nor is it like it in appearance.—J. J. KETTLE.

Bee Management on the Cotswolds.

The system of bee-keeping most widely practised in the eastern part of our county differs little in principle to that in vogue elsewhere. But in detail it does vary considerably, in order to embrace the peculiarities of altitude, soil and temperature which prevail on the Cotswold Hills.

The lias and oolite brash is widely distributed, and in consequence white clover thrives and is a popular farm crop.

Here and there the limestone merges into darker, richer soil, which accounts for the fact that our honey is of two principal shades only—water white and pale amber.

The open country, lying high, is much swept by cool winds and perfectly calm days are rare; an exception to this being the June, July and October of the present season, when still days were remarkably frequent.

Most of the villages lie either low down on the hill slopes or in the valleys, and are therefore snugly protected—getting the sunshine without much wind.

Vegetation is more forward in the spring, and it preserves its charm till later in the fall than in exposed places. Usually it is here that the skep apiaries thrive, and such black bees as remain are found to be pure.

The commercial apiaries (and there are several of them) are situated where some protection is given by natural wind-breaks, and locations in spinneys or deep hollows give good results from this point of view.

A warm location is as agreeable in summer as it is helpful in the winter. Naturally, early pollen sources are few and late in making their appearance in the spring.

Few bees are, therefore, found flying much before mid-April, and the weather must be mild indeed for outside sources to yield before May is well in.

Colonies with plenty of pollen in their combs have no reason to restrict breeding, although it progresses faster under the stimulus of natural pollen freshly gathered.

Weak stocks in the autumn are usually found dead in the spring.

Medium to strong stocks are likely to be in the same condition unless thoroughly well stored. When the bees are vigorous and headed by a good queen they cannot within reason have too much food.

If the colony is to build itself up well in front of the main flow, rather than for the flow to build up one's stock, then the value of stores in abundance is amply proved.

Since the extra strong will consume proportionately less than the weak stock, the practice seems to be to reduce risk by wintering fewer but having them stronger. When the medium or weak have been united or otherwise disposed of in September, the chances of the remainder wintering in good shape are highly increased.

It might be argued that the commonly used single-walled hive, with its outer lift, or the double-walled hive would hardly give sufficient protection for wintering, and that the "W.B.C." type would be more suitable.

Bees winter particularly well in hives of the latter kind, but the disadvantage of not having one's hives completely self-contained is a serious one at an out apiary where dry storage space is limited.

Ordinarily the main flow from sainfoin commences round about June 7, and it is necessary for the bees to be strong in numbers just prior to this date.

A Cotswold Cottager's Bee Garden.

The first supers of drawn comb given some 14 or 18 days previously will then contain a blend of swede, hawthorn and sycamore honey. The second super, given under the first, is therefore the one in which sainfoin in its pure state is stored, and usually when extracted yields a pale limpid honey of excellent flavour.

Indeed, so delicate is the tint that even a slight addition of earlier honey will discolour it to its detriment. If charlock honey becomes mixed with it the whole will grow cloudy a few days after extracting.

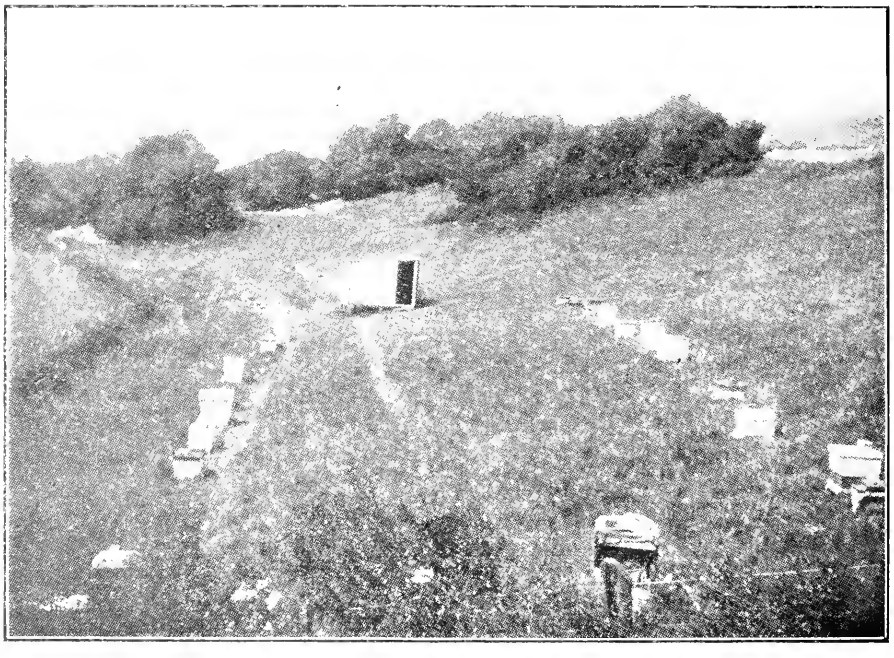
Local bee-keepers who confine their colonies to single-brood chambers find swarming troublesome during this period, especially in sultry weather. As sections are generally

worked for, progress in these is therefore slow.

But most seasons some very well-filled sections of nice lemon colour are secured from strong first swarms, which sometimes complete two or three racks.

Larger hives, with queens clipped, and the weekly inspections of brood nests help in preventing swarms issuing and flying away, while the practice of using not more than two deep or three shallow supers and extracting them when completed gives more honey and better results than having enough supers to hold all the crop and extracting altogether at the close of the season.

The tendency is to give a large amount of bottom ventilation in order to prevent any "hanging out." On a clear moonlight night the apiary in the plantation looks most weird with black masses of bees hanging motionless



A Cotswold Apiary Devoted to Breeding Bees.

above the hive doorstep. In the daytime, when the hive is well ventilated, these workers disappear into the fields.

Such swarms as are captured do their best work if two or three are shaken together and supered with a couple of racks of sections three days after hiving.

Late swarms are useless, being usually returned, or added to weak nuclei.

Occasionally honey comes in readily till August 10, though much is used for current consumption.

At this period all supers but the least finished one come off. The brood nests are carefully examined and any colonies still to be requeened are then dealt with, as are those lacking in stores. In most cases when the number allow for each pair to be united the combined stores will be sufficient for the bees' requirements.

To sum up, the points mentioned seem to be the main ones on which an improvement of system ought to be based. A simpler yet more efficient form of management with reliable bees suited to our peculiar climate should give us greater returns and a freedom from those minor bee-keeping troubles which plague novice and expert alike. A. H. Bowen.

Apiary Notes from the Centre of the Grampians.

In a former yarn in the early summer, which the Editors of the British Bee Journal were kind enough to publish, I said

I commenced the season with five stocks on 12-bar frames each, and one in a straw skep (for queen rearing). With the early spring and plenty of pollen the stocks were quickly built up to summer strength. The clover and flower flow of honey began early, and was the richest I have seen for many years. It is always limited in this Highland district, so much of the glen land being out of cultivation. I would estimate it at about double what it has been for several seasons. But during this flow the warm weather and bright sunshine caused a swarming fever. Adding racks of sections and giving all ventilation possible did not stop it. Only one of the five stocks did I manage to prevent swarming, and this one gave a good surplus. Early in June I saw that something was wrong in one hive.

The bees got slack in working, and on looking for the cause I found brood in the advanced stages, but no new-laid eggs and no queen. My first swarm had a 1920 queen. I transferred the 12 combs to a new hive holding 16 frames, sprayed both stock and swarm with essence of peppermint and put them together, they gave a lot of surplus.

I had an experience with one swarm that I think is worth relating. It clustered on two separate branches of a birch tree near the hive. In my absence at work my wife and daughter cut down the two clusters and placed them side by side in the garden with a skep over each. On coming home to my dinner at 12 noon they were on the move. I had time to get the garden hose on them, and they clustered again on a currant bush. Placing a skep over them, and seeing them go up nicely, I left them. I returned again about 3 o'clock. They were almost all up, but before I could get them removed they again took flight. I followed them so far, and my daughter took up the chase on her cycle. As their flight was parallel with the glen road it was easy keeping them in sight. They landed in a hive containing old combs, which was open, about two miles distant from their starting point. I went later in the evening to remove them, but could find no queen and only about half the bees. I left them to return of their own accord, which they did next day. Was it a mistake not to unite the two clusters at first? This stock swarmed again about ten days later. I secured them all right.

Now for the sequel. About the end of September the original stock developed crawlers. I watched them for a day or two to make sure which stock they came from. I placed them over brimstone and smothered them. There have been no more crawlers and no sign of disease in the swarm. This other bee-keeper lost all his bees nearly two years ago. I suspect it was by disease, and his hives standing open all this time to spread infection to any stray bees which might be attracted to them. It ought to be punishable.

Is it remarkable that two swarms out of four broke into two clusters? I have only seen it once before; the one I have already referred to, the others settled about 20 yards apart. In this case I united them at once.

The heather honey harvest also began early, about ten days earlier than in an average season. The bloom was the richest that I have seen for many years. Wherever one walked in this upland glen the air was fragrant with the smell of honey. But, alas! the weather was miserable; it broke at the start of the heather flow. The bees were on strike day after day, high wind and rain alternating with frost at night, which took a heavy toll from those that ventured out in a bright moment, even on good days, which were few. The frosty nights kept the bees on short time. I estimate that we lost more than two-thirds of the heather flow.

In our upland district, which is near a summer resort, there is a ready and remunerative market for section honey, the heather sections being in greater demand this season than the supply. Many of the racks put on late were badly sealed, some, although fairly well filled, had few marketable sections.

1921 was a great improvement on 1920, and most stocks have large stores in the brood chamber, so that little feeding will be required during the winter.

By the by, I see by the Aberdeen daily papers that Mr. Anderson, of the Northern Agricultural College, in a bee lecture on lower Deeside, condemns candy feeding altogether. He says it brings through the weaklings, which would be better dead.—A. G. C.

[We differ entirely with Mr. Anderson's statement. A strong colony of good bees is often starved to death for want of the timely assistance a supply of candy would give.—EDS.]

Bee-Keeping in S.W. France.

BY A. RICHARDS.

(*Continued from p.* 598.)

On Easter Sunday we went for the day in the car, taking our cameras with us, and were amazed at the endless expanse of heather. We spent the day going through country somewhat similar to that around Farnham, Frensham, Hazelmere, and Godalming, every here and there staying to photograph some little enclosure made of hurdles, filled in with broom, etc., and within rows and rows of these little muck hives, with their busy throng of workers passing in and out of every doorway, and looking for all the world like African villages in miniature, and one would hardly have been surprised to have seen pigmy Zulus in war paint issuing from these little huts, brandishing their assegais and dancing their war dances.

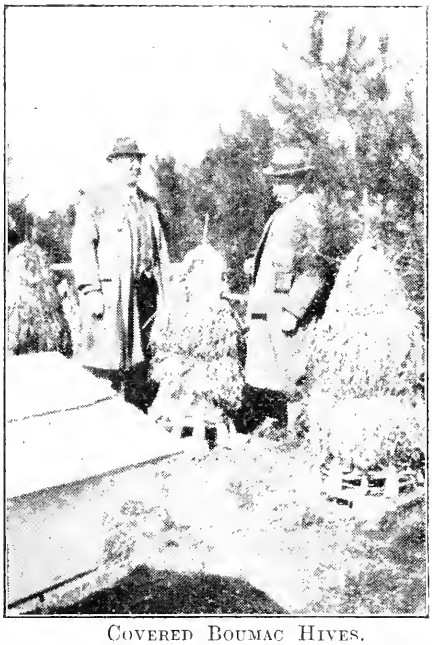
We must have covered well over a hundred kilometres on this Sunday, and passed through many miles of heather lands, where the chance of getting a crop is not the speculation it is in the British Isles, but where there is an absolute certainty of a steady flow from Erica cinerea, followed by Calluna vulgaris, lasting for over three months; yet not an ounce of it ever finds its way into a section. What will our heather men have to say to that?

Easter Monday came, and is a day to be remembered, for on it M. Couterel had decided to show us bee-keeping in France at its best, and what we had seen before then, with the exception of M. Couterel's own smaller apiary, served only as a sort of dark background to that we were to be shown now.

First of all we were up and off betimes; the four Englishmen preferring to walk, M. Couterel's lady assistant on her bicycle, while M. and Mdme. Couterel came along in the car with the victuals, the photographic apparatus, and two other assistants, one of them being the photographic expert.

The apiary itself covers an area of about three-quarters of an acre, enclosed within a thick hedge: it is broader than it is long, there are ninety bar-frame hives set in three rows of thirty each, with a path running down the middle, so that there are three rows of fifteen

hives each at each side of this centre path. The hives are all numbered, the bee-house is in the centre, the entrance facing this middle path, so that, standing with one's back to the bee-house, the hive on the extreme left of



COVERED BOUMAC HIVES.
M. RAYMOND ON RIGHT.

the nearest row is No. 1; No. 30 is on the extreme right. Between the hedge and the bar-frame hives there are two rows of conical hives, on the principle of the cow-dung hives described before, but these are square cones made of thin wood and are cut away slightly on one side to form a flight hole. They are put by M. Couterel on to proper stands and supplied with the loose coverings of long straw used for the primitive dung hives; from these he takes the artificial swarms he sells and despatches during the season. He assured us that it was a very rare event for a swarm ever to issue from any of his bar-frame hives.

Perhaps the most interesting item of our visit was the bee-house and plant. Some idea of its size may be gathered from the photographs. This is a large and roomy bungalow building with a big main workshop and extracting-room on the ground floor, underneath which there is an equally large cellar. M. Couterel, himself, removes the frames from the supers one at a time, and, after brushing off the bees, puts them into boxes made to hold ten shallow frames; during this operation he has a man with him to keep the smoker going. These boxes of shallow frames are then passed through a bee-proof shutter into the bee-house; here they are uncapped and extracted, the honey running from the extractor into a vat, and from thence through pipes into large ripeners in the cellar below. These are on a raised platform, so that the honey can be run out easily into barrels or wooden buckets, being the form in which it is most commonly delivered to the purchasers in France. Below the level of the ripeners, but above the level of the cellar floor itself, is a large vat, into which the honey to be made into hydromel is run for the fermentation and manufacture of that beverage. There is plenty of woodfuel and water, thus greatly simplifying operations of every kind.

This visit was made a day of great celebration; a dinner was cooked at the apiary, and nine of us sat down to partake of it around a large refectory table in the main room of the bee-house, where convenience and comfort have been studied, as well as the practical efficiency in its equipment for industry. Hydromel was there as well as the refreshing beer of Nerac. Then the success of bee-keeping was toasted according to form, in the best of white wine, while there were coffee and other beverages for those who liked them. Speeches were made and toasts drunk to the success of French and English bee-keeping. Of the viands I will not speak here, save to mention the *pâté de fois gras*, made many years before by Mdme. and M. Couterel (or should it be M. et Mdme. Couterel?) That a combined effort had been used both were agreed, but the order of precedence had not been finally settled when we broke up.

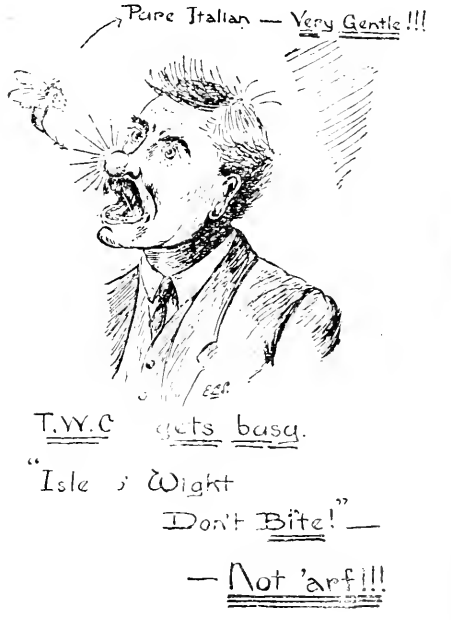
During the afternoon we opened and examined several of the bar-frame hives, all the stocks being exceedingly healthy and flourishing, and although the bees had to undergo a very considerable amount of somewhat rough handling, surrounded by a crowd of admirers,

M. RAYMOND AND M. COUTEREL.

and hives were kept open for a long time, and it was late in the afternoon, and the month was still March, yet they were surprisingly

quiet. A number of Italian queens had been introduced some four or five years' before, and there was a distinct preponderence of the Italian left, and from their looks we should have expected to find them anything but docile under the constant handling we put them to, more especially as there were many evidences of robbing.

This, then, was our last day with the bees in France, and it will be remembered by all of us as among the most interesting of our bee experiences, not only for the real enjoyment of the visit. The kindly hospitality of our reception and the geniality we experienced showed once again that a true sentiment of freemasonry is always to be found among all of "the craft," no matter in what country they be found.



British Bee-Keepers' Association.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, December 15, 1921.

Mr. W. F. Reid presided, and there were also present Miss M. D. Sillar, Messrs. G. J. Flashman, G. R. Alder, W. H. Simms, G. Bryden, A. Richards, J. Herrod-Hempsall, Association representatives: Rev. E. F. Hemming (Hunts.), Messrs. E. G. Waldock (Surrey) and R. R. Babbage (Middlesex).

The minutes of the previous meeting were read and confirmed.

Letters of regret at inability to attend were read from Sir Ernest Spencer, Messrs. T. W. Cowan, C. L. M. Eales, J. B. Lamb, E. Walker, W. H. J. Prior, and Rev. E. G. Bartleet.

The following new members were elected:—Messrs. R. Edmonson, E. O. Dennis, and C. M. G. Winn.

The Lancashire Association nominated Mr. F. H. Taylor as their representative, and the same was accepted.

The report of the Finance Committee was presented by Mr. Bryden, who stated that receipts for November were £98 13s. 6d. The bank balance on December 1 was £226 18s. 9d. Payments amounting to £76 17s. 7d. were recommended.

A vote of thanks was passed to the Finance Committee for their labours during the past year.

The report of the Sub-Committee on Examinations was presented by the Chairman. After a careful scrutiny of the reconstructed Syllabus and Instructions to Candidates, they were passed as submitted, with but three minor alterations.

The Sub-Committee's suggestions with regard to the conduct of the examination were adopted as follows:—

PRELIMINARY EXAMINATION.

That the examiners shall in all cases hold the Expert Certificate of the British Bee-Keepers' Association.

INTERMEDIATE, FINAL AND HONOURS CERTIFICATE IN LECTURING.

That a Board of examiners, consisting of not less than six members, not necessarily members of the Council of the British Bee-Keepers' Association, be appointed annually, with power to co-opt, if necessary, for individual cases for Honours Examination in Lecturing only. That each member, whether co-opted or not, hold the Expert Certificate of the British Bee-Keepers' Association. That for the conduct of the Intermediate and Final Examinations, the Board shall each year, and for each examination, elect two of their number to set the questions, and mark the answers, one for paper A and one for paper B, respectively. For the Honours Certificate in Lecturing, whether in London or the provinces, they shall elect at least two examiners to be present and report to the Board, who shall then formulate the recommendations to the Council. The Certificate shall be signed by the examiner holding priority with regard to his own certificate.

The following were elected on the Examining Board:—Messrs. G. R. Alder, G. Bryden, G. J. Flashman, J. Herrod-Hempsall, W. Herrod-Hempsall, A. Richards, W. F. Reid, and W. H. Simms.

Mr. Waldock proposed, and Miss Sillar seconded, a very hearty vote of thanks to the Sub-Committee on Examinations for their labours. This was carried.

Mr. Waldock proposed, Miss Sillar seconded, and it was carried unanimously, that in the next list of members in the annual report those members who have gained their Expert Certificate shall be denoted by a star.

As the date of the International Congress at Marseilles is postponed to September, 1922,

further consideration of this matter was postponed.

The Secretary was instructed to make arrangements for the participation of the Association in "The Nation's Food Exhibition," 1922.

Mr. A. Richards was nominated as the delegate to the British Empire Exhibition, 1923.

Correspondence was read and dealt with from Mr. T. W. Cowan, the Royal Agricultural Society of England, and the British Dairy Farmers' Association.

Next meeting of Council, January 19, 1922, at 23, Bedford Street, Strand, London, W.C.2.

Carmarthenshire Bee-keepers' Association.

Mr. Comery, B.Sc., Hon. Secretary, Carmarthenshire Bee-keepers' Association, gave an interesting lantern lecture on "Bees and Bee-keeping" at Pumpsaint, Carmarthenshire, on Wednesday to a crowded audience. An enjoyable and profitable evening was spent, and it is hoped that it will be the means of inducing many farmers and cottagers to keep a colony or two of bees.

Mr. Adams, Llanwrda, manipulated the lantern, and Mr. Thomas Erwau occupied the chair.

Lady Hills Johnes, Dolancothy, who always helps every good cause in the district, entertained Mr. Comery and friends to supper after the lecture.—(*Communicated.*)

Suffolk Bee-keepers' Association.

An interesting series of four weekly lectures has just been given under the auspices of the above Association at the Town Hall, Ipswich, by Mr. Thos. Payne, who holds the first-class certificate of the B.B.K.A. The first lecture, which was illustrated with a set of interesting lantern slides, was delivered on Tuesday evening, November 8, the other lectures following on November 15, 22 and 29. During the second lecture Mr. Payne went in detail through the different parts of a modern W.B.C. hive, kindly lent for the purpose by Messrs. J. Orton & Co., Ipswich, and emphasised the importance of not allowing a movable-comb hive to degenerate through neglect into something not much better than the old fixed-comb skep. At the other lectures information was given with regard to the habits of bees, also hints as to purchasing bees, and the lecturer described a season's work in the apiary. The fourth lecture was devoted principally to the value of bees in fruit growing—a subject on which Mr. Payne was well qualified to speak in his capacity as Horticultural Instructor to the Education Committee of the East Suffolk County Council—the chief nectar-yielding flowers in Suffolk were mentioned in their seasons, and the principal bee diseases were described, hints being given as to the best methods of prevention and treatment. The attendance was very gratifying, and the collections taken up at the end of each lecture were almost sufficient to cover expenses. In the course of the lectures Mr. Payne touched on all the leading points connected with apiculture, and it was felt that much useful information was imparted to his hearers, who had an opportunity, at the conclusion of each lecture, of putting questions on any matter in regard to which they desired further explanation. An appeal by the lecturer for honey for the Ipswich and East Suffolk Hospital met with a generous response. The duties of chairman were shared by Capt. C. T. Packard and Messrs. T. Edgar Mayhew and J. M. Martin.—(*Communicated.*)

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real name and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Labelling Foreign Honey.

[10605] Mr. Leigh's article is deserving of much more than passing notice. For years British bee-keepers have taken it lying down. Tons of foreign honey have been passed off as English, and, in a broader sense no doubt, as British. A familiar way of passing off Colonial honey is to label it as "British." Some of it undoubtedly is very good, but much of it is poor. I have, out of curiosity, bought honey bearing the label of a local farm—no mention of country of origin, so the imputation is that the honey is produced locally. On examination it has turned out to be foreign honey, with a small percentage of British (Isles) honey of a poor quality. The flavour was like brown sugar and a small amount of vinegar. I would go farther than Mr. Leigh's suggestion, and advocate the compulsory labelling of all honey not produced within the British Isles as either "Foreign," or with the name of the country in which it is produced, any mixture to be definitely so labelled.

In addition to approaching County Councils, every Member of Parliament should be appealed to. First of all, it would be necessary to prepare a well-defined and drastic draft suggesting the mode of labelling. This should be work proper to the B.B.K.A. The work of sampling, inspection, and, where needed, prosecution, should be laid upon the County Councils through their bee experts.

Each bee-keeper should obtain a copy of the draft, and forward it, together with a letter, to their M.P., urging the necessity of a measure.

The correct labelling would be a good advertisement of British (Isles) honey. For

further advertisement, it would be a good thing to have a sample of foreign and local honey at shows, visitors being invited to sample each. We are pretty sure of the result. I contemplate trying the experiment next season.

Now that the question has been again raised, I hope it will not be allowed tamely to drop.—F. D. HILLS. Alton, Hants., December 3, 1921.

Candy v. Dry Sugar.

[10606] *Re* my letter, No. 10,574, BRITISH BEE JOURNAL, November 24. You queried if granulated sugar meant candy, but I never use candy. I use a very fine granulated sugar (called by grocers American Gran.). I use it in a frame feeder after Doolittle's plan. If feeding is left too late in the season (for syrup) I put about 4 lbs. of dry sugar in a rapid feeder over-feed hole. Candy, if fed in the winter, gives the bees too much trouble.—F. MASON.

[Dry sugar feeding is seldom done now. It was the "frame of granulated sugar" we did not understand. We cannot agree with Mr. Mason that candy gives the bees more trouble than dry sugar. In our opinion the reverse is the case.—EDS.]

Education v. Legislation.

[10607] In reference to the "Notes from Gretna Green" a short time ago, may I give one of my many experiences? Last summer I was asked to visit a bee-keeper in the ordinary course of my duties of advising and assisting bee-keepers, and found his only remaining stock "rotten" with foul brood. I pointed out to him the desirability of destroying them, and taking other precautions to prevent the spreading of the disease. Although he had requested an advisory visit, he refused to do anything in the matter, to the danger of all bee-keepers in the neighbourhood. The bees are now dead, and the hives have been removed owing to the intervention of his wife, but not before two neighbouring bee-keepers' stocks were affected, one of which is—I hope—cured; the other was destroyed by its owner as soon as he knew that they were slightly affected.

May I ask your correspondent and all opponents of legislation: What would they do in a case like the above?—A LOVER OF BEES.

Section Honey.

[10608] Perhaps you will allow me a little space on the above subject. A while back one question for "Self-examination" was "How should filled sections be prepared for exhibition at a honey show?" From what I have seen at shows I can pretty well guess the answer expected. They are generally glazed on each side, with laced paper edging round, and again white paper entirely covers the wood. Now if this is the preferred style, why use the beautiful white basswood at all, especially at the present price of 15s. per 100 (when we only used to pay 2s. 6d.)? Rather use cardboard ones, which could be turned out accurately, strongly and cheaply. When I first worked for sections, 30 years ago, I tried my utmost to produce them as clean and white as when placed on the hive. No particle of propolis would I leave on them; they were spotless, and greatly admired. I still do the same to-day. I never use a cut top if I can help it. I consider the beauty of a section is greatly enhanced by the basswood.

Last summer I worked a hive which produced a fine lot in 2lb. sections. In showing same they were either in a glass case or glazed each side and tied round with two narrow pieces of silk ribbon. I cover up no propolis and dirt with lace paper, etc., yet I take care I have none of the former to show. Certainly a substitute must be found if the wood section does not drop enormously in price.—E. H. MATTHEWS, Hants.

Black and Shiny Bees.

[10609] I have had three years' experience with bees for a hobby and profit, having been very successful and had no trouble until last August. The early part of August I took off three supers and extracted the honey and replaced the combs for the bees to clean, and everything appeared all right in the hive. (This hive had swarmed at the end of July.) When I looked in the hive a fortnight later I found the majority of combs in the supers and brood box filled up with drone brood (queen excluder in use). I cut all this out of the super combs and replaced them in the hive again. About ten days later another examination, with the same result—more drone brood in the supers. Then I took supers off and only used the brood chamber. At the end of August drone-producing still going on and no worker brood. (Of course, the queen had gone and a worker bee had taken her place.) I then took the brood box with all the combs and bees a good distance away from hive, swept the whole lot clear and returned the combs to the hive free from bees. By the time I returned the ten empty combs to the hive quite half of the bees went back, and the best part of the other half I found perished by the following evening in the place where I brushed them off the combs. The idea was to try and lose the offending worker.

Two days after this operation I gave the hive a tested laying queen; three days later this queen was missing, but I have not traced any more drone brood, and now I have left them to dwindle away, or see what happens.

Now for the black and shiny backs. They appeared just before I took off the supers to extract honey the early part of August, and the last time I examined the hive no shiny backs could be seen.

Would the appearance of the shiny backs have anything to do with the departure of the old queen, or would the departure of queen and the replacing of her by a worker have anything to do with the appearance of the black shiny backs?

As a reader of the "B.B.J." I would like to see a reply to this.—F. H. SOMERVILLE.

Skep Honey.

[10610] In discussing the "virtues" of skep honey, Mr. Hewson, p. 541, November 17 Journal, seems to have the better of you in the argument.

You have overlooked the fact that he *mixed* and *strained* the honey.

An old lady was straining milk into a couple of crocks placed on the floor. She neglected to keep an eye on a playful puppy wandering about the place. An accident happened to one of the crocks, such an accident as might happen to any crock of milk in the presence of a playful puppy.

"There!" said the old lady, as she "belted" the pup with a boot, and poured both crocks of milk back into the pail. "*There! I'll have to strain that milk all over again.*" Would it not have the same effect on honey as on milk?—E. M. COLE, Audubon, Iowa, U.S.A.

Wintering Bees.

[10611] I think we should be interested in hearing of bee-keepers who find damp quilts, and if they renew them, warm and dry, with a hot-water bottle and cork, folding quilts. It is an important idea just now. The cause of damp quilts I found was using cones on front of hives; water is blown in.—C. TREDCROFT.

Black and Shiny Bees.

[10612] On October 9 I recorded the following observation: I saw a black and shiny bee on alighting board to-day. The little lady looked as if she had been polished to the highest degree.

She made to enter the hive, but the sentries pushed her away. Again she tried, penetrating further this time, but three or four other bees brought her out, executed some movement round her, for which she seemed none the worse when released.

Another try, without success, and again that same movement around her, but this time the "shiny one" was carried away by one of the other bees. They disappeared in the distance. Less than a minute later she alighted again at the entrance, and this time went in. About 30 minutes later I saw that same bee again, undergoing the same treatment recorded above. Once more she was taken away, and although I waited she did not return.—E. LEE, Glenmar, Southminster.

Wanted—Name of an Evergreen.

[10613] I shall be glad if you, Mr. Editor, or any other reader of the BRITISH BEE JOURNAL, can give me the name of an evergreen for planting a small piece of hedge, so as to be not only ornamental, but to give the best forage for bees, and also to serve as a windbreak for the apiary. An answer through the columns of the "B.B.J." will be much appreciated.—D. JONES, Carmarthenshire.

[Can any of our readers supply the information? We do not know of a shrub that will fulfil all the conditions.—ED.]

Notices to Correspondents

H. S. (Yorks.).—*Making candy.*—The recipe we use is as follows:—Use a brass or enamelled iron pan, put in one pint of water, allow to boil, then stir in 6 lbs. of loaf crystallised cane sugar, set the pan beside the fire (not on it), and stir occasionally until the sugar is all dissolved. Then add one-half teaspoonful of cream of tartar, and place the pan on a brisk fire; stir without stopping until the mass begins to boil. Allow to boil for half a minute or so, then withdraw from the fire, and with a spoon drop a small quantity on a cold plate. If the sugar does not stick to the finger when pressed into it and withdrawn it is boiled enough. If sticky it must be boiled another minute, and again tested. When boiled sufficiently, allow it to stand *without stirring* until the finger may be kept in it without scalding, then stir briskly until the mixture stiffens and turns white. Before it is too stiff to run freely, pour into suitable moulds or boxes. Any medicine should be added while stirring. A "B.B.J." Ideal Candy Maker will give you the correct time for boiling.

H. K. (Durham).—*Two colonies in one hive.*—If you wish the two colonies to work in one super common to both, the division board in the brood nest must be perforated with ⅜-in. holes, so that all have the same scent. See that the perforations are kept clear, as the bees have a habit of propolising them up.

R. I. H. (Islay).—*Queries on transferring.*—Take the frames out of the new hive and place the skep inside it for the winter. The entrance must, of course, be left open and the roof placed in position. This will protect the skep and keep it dry. When the bees have been confined to the hive for a fortnight or more by cold weather move to the new site. In the spring, as soon as the colony is strong enough, lift the skep out, fit up the hive with frames full of foundation, stand the skep on top of the frames, and allow the bees to work down.

Suspected Disease.

D. W. J. (Llanelly), F. S. (Whitchurch).—The bees sent were free from Acarine disease.

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